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A manual of palæarctic birds

Henry Eeles Dresser

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A MANUAL OF PALÆARCTIC BIRDS

By

H. E. DRESSER, F.L.S., F.Z.S., &c.

Author of "The Birds of Europe"

PART I.—pp. 1–498

LONDON

Published by the Author at 3 HANOVER SQUARE, W.

1902

Price 12/6 net; Thin Paper Copies, 15/- net

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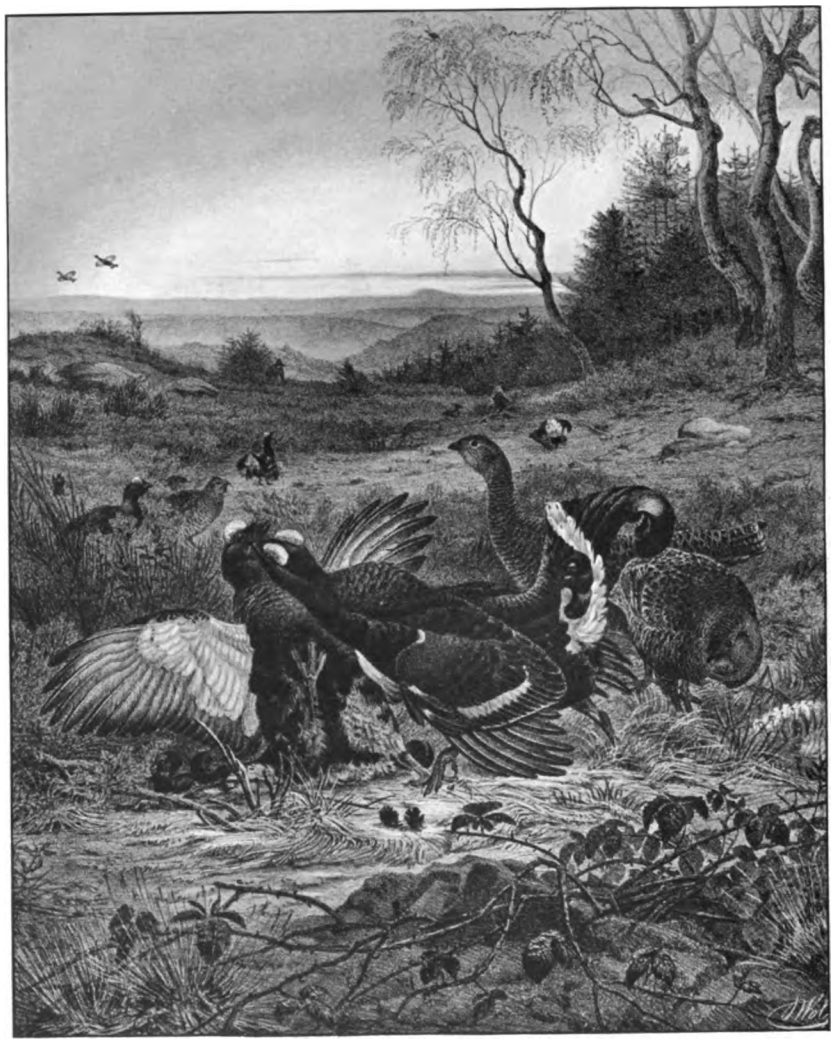

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PALÆARCTIC BIRDS

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H. E. DRESSER, F.L.S., F.Z.S., &c.

AUTHOR OF "THE BIRDS OF EUROPE," ETC., ETC.

PART I

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PUBLISHED BY THE AUTHOR AT 3 HANOVER SQUARE, W.

1902

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PREFACE

TWENTY years ago, when the *Birds of Europe* was nearing its end, I thought of issuing a similar work on the Birds of Northern Asia, in order to furnish a complete account of the Ornithology of the Palæarctic Region. It seemed, however, that I could not expect to obtain for my project the support of a sufficient number of subscribers to save me from serious pecuniary loss, and with much regret the project had to be abandoned. I have since been urged by many friends to bring out a Handbook of European Birds, of a size, and at a price, which would be convenient to travellers and field-naturalists—the latter being a class of persons with whom, for the sake of old associations, when I counted myself one of them, I have still the greatest sympathy. Bearing in mind, however, my former desire to treat of the Birds of Northern Asia, and knowing how non-existent is any physical barrier between the Eastern and Western portions of the Palæarctic area, I have thought it expedient not to limit the present *Manual* to European species, even with the addition of those of Barbary and the Atlantic Islands (Madeira, Canaries, and Azores).

There is admittedly little difficulty in laying down the southern frontier of this area in Africa, since the Great Desert forms a natural boundary, but the southern limits in Asia are less easily defined. I suppose these to run to the northward of the Arabian Desert, and including the tableland of Persia, the highlands of Baluchistan, the whole of Afghanistan, and the

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Himalayan Range above about 6,000 feet, stretching to the south of Tibet, and north of the valley of Yang-tse-kiang as far as the Pacific, and then round Corea and the main islands of Japan, with of course all the countries lying to the northward of a line so indicated, but it seems to be admitted that these limits cannot at present be more definitely drawn.

This work being primarily intended for the use of field-naturalists and travellers, I have thought it advisable to cut as short as possible all technical questions, such as synonymy and the like. The arrangement followed is very nearly the same as adopted in the *Birds of Europe*, with of course the additions rendered necessary by the larger ground that has to be covered. It will be seen, however, that the extreme subdivision of genera, species, and subspecies now so much in fashion has been avoided, and this, I think, will be found a practical convenience to the field-worker. The endless manufacture of subspecies in particular, often based on very trifling differences of tint, seems calculated rather to puzzle and discourage than to assist the beginner, for even the expert is apt to find himself lost in investigating slight distinctions which are occasionally not much more than those which separate individuals. No one can doubt that in most cases the wider the area over which a species ranges, the greater is the amount of variation to be found among its members, the variation being apparently due to climatic or other local causes. When fairly defined limits can be assigned to such variations, it is quite legitimate to accord them separate treatment, whether they be called subspecies or not; but when every intermediate stage between examples that are most unlike can be found, the attempt to differentiate them more than Nature herself has done seems entirely inexpedient. For this reason, besides being in principle a binomialist, I have declined the recognition of such so-called "subspecies," as those who have described them have so little confidence in as to need the aid of trinomials.

The descriptions of the various species have been mainly taken from specimens which were then in my own collection,

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now in the Museum of Owens College at Manchester, but some are from specimens in the British Museum or that of Tring, which last have been generously placed at my disposal by their possessor, the Hon. Walter Rothschild, M.P. In most cases I have examined as large a series of specimens as possible, but there are some few of which I have not been able to see a single example, and have then been compelled to borrow a published description.

It had been my intention to include a map of the Palæarctic area, but consideration showed that it was impossible to give one in an 8vo. volume which would be of any practical use to the reader. A second plate from a drawing by the late Mr. Joseph Wolf, has therefore been substituted which, I think, can scarcely fail to give pleasure to those who may possess the work.

I take this opportunity of returning my thanks to many friends both at home and abroad, who have kindly assisted me in preparing this work, and among them I would especially name Professor Newton, who has helped to look over the proofs, and in various other ways has greatly assisted me; Mr. Howard Saunders, on whose co-operation I could always reckon; and lastly to the Society for the Protection of Birds, who permitted me to publish the work at No. 3, Hanover Square.

H. E. DRESSER.

28, QUEENSBOROUGH TERRACE, W.
1*st June*, 1903.

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ABBREVIATIONS OF THE WORKS CHIEFLY CITED

Bechst. Gemeinn. Naturg. Deutsch.—Bechstein (J. M.), Gemeinnützige Naturgeschichte Deutschlands nach Allen drey Reichen (1789–95)

Berez. and Bianchi Ptitz. Gan-su.—Berezowski (M.) and Bianchi (V.), Aves expeditionis Potanini per provinciam Gan-su et confinia 1884–87 (1891) (*in Russian*)

David and Oust. Ois. Chine.—David (A.) et Oustalet (E.), les Oiseaux de la Chine (1877)

Defilippi Viagg. Pers.—Filippo Defilippi, Note de un Viaggio in Persia nel 1862 (1865)

Dresser.—Dresser (H. E.), A History of the Birds of Europe, including all the species inhabiting the Western Palæarctic Region (1871–81), Supplement (1895–96)

Gould, B. of Eur.—Gould (J.), The Birds of Europe (1832–37)

id.—*B. of Gt. Brit.*—id. Birds of Great Britain (1862–73)

id.—B. of Asia, id. The Birds of Asia (1850–83)

id.—B. of Austral., id. The Birds of Australia (1840–48)

Hempr. and Ehr. Symb. Phys. Aves.—Hemprich (F. W.) et Ehrenberg (C. G.), Symbolæ Physicæ, seu Icones et Descriptiones corporum Naturalium novorum aut minus cognitorum quæ ex itineribus per Libyam, Ægyptum, Nubiam, Dongalam, Syriam, Arabiam, et Habessiniam, &c. (1828–45)

Heuglin, Orn. N. O. Afr.—Heuglin (Th. von), Ornithologie Nordost-Afrika's der Nilquellen-und Kusten-Gebiete des Rothen Meeres und des nordlichen Somal Landes (1869–74)

Hewitson.—Hewitson (W. C.), Coloured Illustrations of the eggs of British Birds, accompanied with descriptions of the eggs, nests, &c., 3rd edition (1856)

Lilford.—Lilford (Lord), Coloured figures of the Birds of the British Islands (1885–97)

Lorenz, Beitr. Orn. Nords. Kauk.—Lorenz (Th.), Beitrag zur Kenntniss der Ornithologische Fauna an der Nordseite des Kaukasus (1887)

Midd. Sib. Reis.—Middendorff (A. T. von), Reisen in den äussersten Norden und Osten Sibiriens, während der Jahre 1843 und 1844, Vögel (Band ii.) (1851–53)

Naum.—Naumann (J. F.), Naturgeschichte der Vögel Deutschlands nach eigenen Erfahrungen entworfen (1822–60)

Newton.—Yarrell's (W.), History of British Birds, 4th Edition. Vols. i. and ii. by Alfred Newton (1871–82)

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Oates and Blanf., F. Brit. Ind. Birds.—Fauna of British India, including Ceylon and Burma Birds, vol. i. ii., by E. W. Oates (1889–90), vols. iii. iv., by W. T. Blanford (1895–98)

Pall. Zoogr. Ross As.—Pallas (P.S.), Zoographia Rosso-Asiatica, &c., &c. (1811–31)

Pleske, Ornith. Ross.—Pleske (Th.), Ornithographia Rossica (*in Russian and German*) (1889–91)

Pleske, Prjevalsky's Reisen Vögel.—Wissenschaftliche Resultate der von N. M. Prjevalsky nach Central-Asien unternommenen Reisen. Band ii. Vögel, von Th. Pleske (1889–90)

Prjev. Mongol. i Strana Tangut.—Prjevalsky (N. M.), Mongolia i. Strana Tangutov, &c., &c. (1875) (*in Russian*)

Radde, Sib. Reise (Vögel).—Radde (G. F), Reisen im Süden von Ost. Sibirien in den Jahren, 1855–59, &c. (1862–63)

Radde, Orn. Cauc.—Radde (G. F.), Ornis Caucasica, &c. (1884)

Ridgway.—Ridgway (R.), A Manual of North American Birds, 2nd edition (1896)

Saunders.—Yarrell's (W.), History of British Birds, 4th edition, vols. iii. and iv. by Howard Saunders (1882–1885)

Saunders.—Saunders (Howard), An Illustrated Manual of British Birds, 2nd edition (1897–99)

Schrenck, Reis., &c., Amurl.—Schrenck (L. von), Reisen und Forschungen im Amurlande in den Jahren, 1854–56, Vögel (1860)

Seebohm B. Jap. Emp.—Seebohm (H.), The Birds of the Japanese Empire (1890)

Severtz. Turk. Jevot.—Severtzoff (N. A.), Vertikalnoe i Gorozontalnoe Raspredalenie Turkestanskie Jevotnie (1873) (*in Russian*)

Tacz. F. O. Sib. O.—Taczanowski (L.), Faune Ornithologique de la Sibérie Orientale (1891–93)

Temm. and Schlegel, Faun. Jap. Aves.—Fauna Japonica, &c., Aves by Temminck (C. J.) and Schlegel (H.), (1850)

Cat. B. Br. Mus.—Catalogue of the Birds in the British Museum, by Sharpe (R. B.) and other authors (1874–98)

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MANUAL OF PALÆARCTIC BIRDS

TURDUS, Linn., 1766.

1. Mistletoe Thrush.

TURDUS VISCIVORUS.

Turdus viscivorus, Linn. Syst. Nat. i. p. 291 (1766); Naumann, ii. p. 248, Taf. 66; Hewitson, i. p. 79, pl. xxiii. fig. 1; Gould, B. of E. ii. pl. 77; id. B. of Gt. Brit. ii. pl. 32; Newton, i. p. 258; Dresser, ii. p. 3, pl. 1; Oates, F. Brit. Ind. ii. p. 148; Tacz. F. O. Sib. O. p. 286; Seebohm, Cat. B. Br. Mus. v. p. 194; Saunders, p. 1; Lilford, iii. p. 80, pl. 40.

Draine, Grive de gui, French; *Tordeira*, Portuguese; *Charla Drena*, Spanish; *Tordela*, Italian; *Mistel-Drossel*, German; *Groote Lijster*, Dutch; *Mistel-Drossel*, Danish; *Duetrost*, Norwegian; *Dubbel-Trast*, Swedish; *Kulo-rastas*, *Rossa-rastas*, Finnish; *Drozd-Deryaba*, Russian.

♂ *ad.* (England). Above greyish brown, inclining to olivaceous; beneath buffy white, boldly spotted with blackish brown; eye-streak obsolete; axillaries and under wing-coverts pure white. Culmen 0·9, wing 6·0, tail 4·8, tarsus 1·3 inch. Sexes alike. The nestling is spotted and streaked above with golden buff.

Hab. N. and Central Europe and Asia as far east as Lake Baikal; in winter south to N. Africa, Persia, Turkestan, and N.W. Himalayas.

Frequents woods, orchards, and cultivated districts, and is, as a rule, somewhat shy. It feeds on insects, snails, worms, and, in winter, on berries of various kinds, and seems to be the species most partial to the mistletoe, its fondness for which is shown by its ancient Greek name, *ἰξοβόρος*, given by Aristotle. Its call-note is loud and harsh, and its song, which is clear and high-toned, may be heard as early as January or February. Its

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breeding-range in Europe extends from Greece and Southern Spain to about 68° N. lat. The nest, usually placed on the branch of a tree, often at a considerable height, is constructed of twigs, bents, moss, &c., the foundation plastered with mud, and is lined with fine grass, rootlets, and, occasionally, moss. The eggs, 4 or 5 in number, are reddish grey or brownish olive, marked with purplish brown or dark reddish brown, and measure about 1·32 by 0·9. They are frequently deposited in February, and both sexes share in the task of incubation. The Himalayan form, *T. hodgsoni*, Homeyer, is, as a rule, rather larger and paler in colour, but on comparing a series I find no specific difference between specimens from the Himalayas and Europe.

2. Song Thrush.

TURDUS MUSICUS.

Turdus musicus, Linn. Syst. Nat. i. p. 292 (1766); Naumann, ii. p. 262, Taf. 66; Hewitson, i. p. 81, pl. xxiii. fig. 2; Gould, B. of E. ii. pl. 78, fig. 2; id. B. of Gt. Brit. ii. pl. 32; Newton, i. p. 264; Dresser, ii. p. 19, pl. 2; Tacz. F. O. Sib. O. p. 316; Seebohm, Cat. B. Br. Mus. v. p. 191; Saunders, p. 3; Lilford, iii. p. 82, pl. 41.

Grive, French; *Tordo*, Portug.; *Zorzal*, Span.; *Tordo bottacio*, Ital.; *Sing-Drossel*, German; *Zanglijster*, Dutch; *Graadrossel*, Dan.; *Naaltrost*, Norweg.; *Talltrast*, Swed.; *Haukirastas*, Finn.; *Drozd-pavtschi*, Russ.

Ad. (England). Axillaries buff, eye-streak indistinct; bill horn-brown, the lower mandible yellowish at the base; legs pale brown. Culmen 0·8, wing 4·5, tail 3·3, tarsus 1·3 inch; second primary shorter than the sixth. The female is usually smaller and paler: the nestling has the upper parts golden brown striped with bright buff, the under parts washed with golden buff; axillaries and under wing-coverts golden buff.

Hab. Europe generally, north to about 60° N. lat., Asia as far east as Lake Baikal, in winter ranging as far south as Persia and Nubia. In Great Britain and Ireland most of those that have nested with us emigrate in autumn, and those that winter with us are increased in number by arrivals from the Continent. In January and February those which have migrated south return to their home and so remain till the following autumn.

The Song Thrush frequents groves, woods, and gardens, where its clear melodious song is often heard as early as February, or even in January, and late into the summer months. It feeds on worms, snails, and insects of various kinds, and their larvæ, and

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usually seeks its food on the ground; big snails it beats on a stone to break the shell before picking them to pieces and eating them. When the fruit is ripe it varies its diet with the smaller fruit and berries, and in winter feeds on various kinds of wild berries. Its nest is constructed of grass-bents, roots, moss, &c., and lined with a mixture of rotten wood and clay or dung, and the surface is carefully smoothed. It is usually placed on a bush or tree, but occasionally on a bank or amongst ivy or creepers. The eggs, 4 or 5 in number, are deposited late in March or in April, are blue, spotted with black or occasionally with red or brownish purple, but sometimes are blue, unspotted. In size they average about 1·0 by 0·8. Two broods are usually raised in the season.

3. Mongolian Song Thrush.

TURDUS AURITUS.

Turdus auritus, Verr. N. Arch. Mus. Bull. vi. p. 34 (1870); Prjev. Mong. i. Strana Tang. ii. pl. xx., fig. 13 (egg); Pleske, Prjevalsky's Reisen, Vögel, p. 4, Taf. v. fig. 1 (eggs); Seebohm, Cat. B. Br. Mus. v. p. 193.

Ad. (Kansu). Resembles *T. musicus*, but is of a richer olive brown above, the spots on the wing-coverts are more clearly defined; below with larger and darker spots, the feathers on the cheeks with black terminal bands; axillaries and under wing-coverts darker buff; 3rd, 4th, and 5th quills nearly equal and longest, 2nd slightly longer than the 7th; beak brown, the base of the lower mandible white; legs greyish flesh; iris brown. Culmen 0·9, wing 4·7, tail 3·8, tarsus 1·37 inch. Sexes alike. The nestling has the upper parts spotted and striped with warm ochreous, the spots on the under parts smaller and washed with ochreous.

Hab. Northern China (E. Szechuen and Pekin) and Kansu in Mongolia.

It frequents mountain groves in Mongolia, and is not common. Prjevalsky found two nests at Kansu in the middle of May, one on a broken tree stump, and the other on a willow branch, not above seven feet from the ground. He does not describe the nest, but the eggs, he says, differ widely from those of *Turdus musicus*, and run into two varieties, one having the ground colour dull vinous, and the other light dull olivaceous, and the markings are violet-grey shell blotches, and larger and smaller rusty-red surface spots; they are rounder in shape than those of *T. musicus*, and in size average 1·05 by 0·8. He saw fledged young on the 30th June.

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4. Swainson's Thrush.

TURDUS SWAINSONI.

Turdus swainsoni, Cabanis in Tschudi's Faun. Peru. ii. p. 187, 188, (1845–46); Naumann, xiii. p. 273, Taf. 355, fig. 4; Dresser, ix. p. 1. pl. 634, fig. 2; Seebohm, Cat. B. Br. Mus. v. p. 201.

Ad. (N. America). Above olivaceous tinged with green, the rump and tail uniform with the back; below white spotted with blackish brown, the sides of head, neck and the breast washed with buff; eye-streak indistinct; bill dark brown, yellowish at the base; legs brown; iris hazel. Culmen 0·52, wing 3·9, tail 2·9, tarsus 1·1 inch.

Hab. Eastern N. America, from the Yukon and Slave Lake, breeding as far south as at 44° N. lat., in winter ranging as far south as Peru; has once occurred in Greenland, and is a rare visitant to Europe, but has not occurred in Great Britain. Six occurrences have been recorded in Europe, viz. one near Genoa in 1843, a second at Namur, Belgium, a third on Heligoland in 1869, a fourth in Holstein, a fifth near Rovereto, Tyrol, in 1878, and a sixth at Sarzana in Liguria.

In general habits it is rather more arboreal than its congeners, and seeks its food more amongst the branches of trees than on the ground, feeding chiefly on insects of various kinds. Its song is sweet and plaintive, and is said to be more regular than that of *T. pallasi*. Its nest is placed on a tree in dense woods, usually about four to six feet above the ground, though in the high north it has been found as low as two feet. It is compact and neatly finished, constructed of lichen, moss, chiefly *Hypnum*, leaves, bents, strips of bark, &c., and the eggs 4 or 5 in number, which are usually deposited late in April or early in May, are bluish-green, occasionally light blue, spotted with yellowish- or reddish-brown, averaging in size about 0·88 by 0·66. In Western N. America a closely allied form occurs, which is separated by American authors under the name of *T. ustulatus Nutt.*, and which ranges north to Sitka, and in winter south through Western Mexico to Guatemala.

5. Hermit Thrush.

TURDUS PALLASI.

Turdus pallasi, Cab. in Wiegm. Arch. (1847), p. 205; Naumann, xiii. p. 273, Taf. 355, figs. 1, 2; Dresser, ix. p. 5, pl. 634, fig. 1; Seebohm, Cat. B. Br. Mus. v. p. 199; *Merula solitaria* Swains. Faun. Bor. Am. ii. p. 184, pl. 35.

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Ad. (New Brunswick). Above brownish olivaceous, tail and upper tail-coverts reddish brown ; below white washed with pale buff, sides of throat and breast marked with sub-triangular dark brown spots ; bill darkish brown, pale yellowish at the base ; legs brownish ; iris hazel. Culmen 0·59 wing 3·64, tail 2·88, tarsus 1·19 inch.

Hab. North America, east of the Rocky Mountains, wintering as far south as Florida ; has strayed to Europe, one having been obtained at Klein Zerbst, in Anhalt in 1825 a second in Switzerland, a third in Heligoland in 1836, and a fourth, which is, however, open to doubt, near Vienna in 1846.

It frequents wooded, swampy localities, especially alder swamps, hence its name "Swamp Robin," by which it is generally known in New Brunswick, and is more terrestrial in its habits than *Turdus swainsoni*. Its song is exceeedingly sweet and melodious, and it was certainly the best songster I met with in New Brunswick. Its food consists chiefly of insects, worms, and small snails, which it picks up from the ground. Its nest is placed on the ground in damp, swampy, bush-covered localities, and is constructed of dead leaves, grass-bents, weeds, and bark-strips, lined with fine fibres, and the eggs 4 or 5 in number are deposited in May or early in June, and are uniform greenish-blue, unspotted, measuring about 0·88 by 0·7. American ornithologists recognise two subspecies of the present bird, viz., *Turdus nanus*, which inhabits Western North America, from Kodiak to Cape St. Lucas and Arizona, and *Turdus auduboni*, which inhabits the Rocky Mountains from Fort Bridger south into Mexico.

6. Gray-Cheeked Thrush.

TURDUS ALICIÆ.

Turdus aliciæ, Baird. B. N. Am. p. 217, pl. 81, fig. 2 (1858) ; Taczs. F. O. Sib. O. p. 318 ; Palmén, Vega. Exp. Fogelf., p. 262 ; Seebohm, Cat. B. Br. Mus. v. p. 202.

Oyngoptschekadlin, Tschuktch.

Ad. (N. America). Differs from *T. swainsoni* in having the upper parts greyish olive, sides of the head ashy grey ; under parts white, the chest sometimes tinged with buff, and marked with triangular plumbeous brown spots ; axillaries dull greyish olivaceous ; a distinct whitish orbital ring ; legs brown. Culmen 0·55, wing 4·0, tail 3·2, tarsus 1·1 inch. The young of these three American Thrushes differ from the adult in having the upper parts marked with warm buff, and the adults are rather darker in the autumn than in the spring. Sexes similar.

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Hab. N. America, from Labrador to the Behring Straits, south to the northern States in summer, ranging in winter as far south as Costa Rica. Not uncommon in N.E. Siberia.

Frequents pine-woods more than those composed of deciduous trees, and is said to be far more shy than *T. swainsoni*. Its food is much the same as that of its congeners, and it usually obtains it on the ground. Its song is said to differ from that of its congeners, most nearly resembling, however, that of *T. pallasi*. Its nest, which is placed on a tree or bush at from 2 to 7 feet above the ground is constructed of sedge, grass-bents, bark-strips, and stems of the more delicate *Equisetaceæ*, never of *Hypnum*, and the eggs, usually 4 in number are greenish blue, bluer than those of *T. swainsoni*, spotted with russet and yellowish brown, averaging in size about 0·92 by 0·64.

Mr. Ridgway separates an eastern form, inhabiting the N.E. United States, which he calls *T. bicknelli*, and should this separation be justified, which I am inclined to doubt, it will not be this form but true *T. aliciæ* which inhabits N.E. Siberia.

7. Redwing.

TURDUS ILIACUS.

Turdus iliacus, Linn. Syst. Nat. i. p. 292 (1766); Naumann ii. p. 276, Taf. 67; Hewitson, i. p. 87, pl. xxiv. figs. 1, 2; Newton, i. p. 268; Dresser, i. p. 35, pl. 3; Tacz. F. O. Sib. O. p. 314; Seebohm, Cat. B. Br. Mus. v. p. 189; Saunders, p. 5; Lilford, iii. p. 84, pl. 42.

Mauvis, French; *Tordo pisco*, Portug.; *Malvis*, Span.; *Tordo sassello*, Ital.; *Rothdrossel*, German; *Rœddrossel*, Dan.; *Rœdving*, Norweg.; *Rödvinge-Trast*, Swed.; *Punirastas*, Finn.; *Drozd-oriechouyi*, Russ.; *Skógar Thrœstr*, Icel.

Ad. (Sweden). Above brown, the wings rather darker, the coverts edged with greyish brown; below white spotted and streaked with blackish brown; a well defined whitish eye-streak, axillaries wing-coverts, and flanks orange chestnut; bill dark brown, lower mandible paler at the base; legs greyish flesh brown; iris brown. Culmen 0·7, wing 4·6, tail 3·5, tarsus 1·0 inch. Sexes alike. The young are streaked above with ochreous, and have the flanks and under wing-coverts dull rufous. In the autumn the adult is rather darker, the eye-streak is tinged with rufous, and the flanks and the wing-coverts are less richly coloured.

Hab. Iceland, the northern portions of Norway, Sweden Finland, and N. Russia, breeding as far south as North

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Germany. In Asia it is common to the Yenesei valley and occurs in decreasing numbers east to the Pacific Ocean. In winter it ranges south to Algeria, Madeira, the Canaries, Turkestan, Persia, and the Himalayas. In Britain it only occurs on migration and in winter.

It frequents the woodlands and is but seldom seen in open tree-less localities, and its food is similar to that of its congeners. Its song is clear and sweet, though somewhat melancholy and in quality inferior to that of *Turdus musicus*. The nest, which is placed on a very low tree or bush, or even on the ground, is constructed of pine-twigs, bents, and lichens, the foundation being plastered with earth, and the eggs, usually 6 in number, are deposited in May or early in June, resemble those of *T. merula* but are smaller, measuring about 1·0 by 0·70, but like thoseof many other species they vary, exhibiting what may be termed a "red" or a "green" type, not that either of these colours is in its purity ever reached, but in a series of eggs the tendency to one or the other extreme tinge is clearly shown.

8. Dusky Thrush.

TURDUS DUBIUS.

Turdus dubius, Bechst. Naturg. Deutschl. iv. p. 240 Taf. v. *b* (1795); Dresser, ii. p. 63, pl. 7; *T. fuscatus*. Pall. Zoogr. Ross. As. i. p. 451 (1871), Naumann, xiii. p. 307 taf. 359, figs. 1, 2, Gould. B. of E. pl. 79; Seebohm, Cat. B. Br. Mus. v. p. 262; Tacz. F. O. Sib. O., p. 289; Dresser, Ibis., 1901, p. 446, pl. ix. figs. 1–4 (eggs).

Drozd chernosoboy, Russ.

Ad. (Yenesei). Above greyish brown, streaked with dark brown; supercilium buff; rump washed with rufous; tail blackish brown; quills broadly margined with rufous; below dull white, spotted on the sides with black; breast and flanks boldly marked with black; under wing-coverts and axillaries rufous; bill dark brown, yellowish at the base; legs light brown; iris dark brown. Culmen 0·82, wing 5·15, tail 3·8, tarsus 1·35 inch. The young bird is much paler and duller, the under parts less boldly marked, and the margins of the wing-feathers are paler and greyish rufous in colour.

Hab. Asia as far north as the limit of tree growth, east to Kamchatka, the Commander Islands, and Japan, in winter ranging south to China, Mongolia, Assam, and N.W. India. To

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Europe it is a rare straggler, having occurred twice in Norway, once in Germany, once in Belgium, and four times in Italy.

In general habits it is said to resemble the Fieldfare and Mistletoe Thrush. Its call-note is loud and harsh. It breeds on the Yenesei river, its nest being similar to that of the Fieldfare, and is placed on small isolated trees, usually not more than two feet from the ground. Its eggs vary from the ordinary Blackbird type to those of the Fieldfare, and are usually deposited in June.

9. Fieldfare.

TURDUS PILARIS.

Turdus pilaris, Linn. i. p. 291 (1766); Naumann, ii. p. 296, Taf. 67; Hewitson, i. p. 84, pl. 23, fig. 3 (egg); Newton, i. p. 272; Dresser, ii. p. 41, pls. 4, 5; Tacz. F. O. Sib. O. p. 287; Seebohm, Cat. B. Br. Mus. v. p. 205; Oates, F. Brit. Ind. Birds, ii. p. 150; Saunders, p. 7; Lilford, iii. p. 86, pl. 43.

Grive litorne, French; *Tordo zonal*, Portug.; *Tordelagazzina*, Ital.; *Wachholder-Drossel*, German; *Kramsvogel*, Dutch; *Kramsfuggel*, Dan.; *Graa-trost*, Norweg.; *Björktrast*, *Snöskata*, Swed.; *Räkättirastas*, Finn.; *Rastis*, Lapp; *Drozd-riabinnik*, Russ.

Ad. (Finland). Head, hind neck, and rump bluish grey; the crown spotted with black; superciliary and malar stripes buffy white; centre of back, scapulars, and wing-coverts dark chestnut; quills and tail blackish brown; under parts white, throat and breast ochreous, the latter and flanks broadly marked with black; under wing-coverts and axillaries white; bill yellow, tipped with horn-brown; legs reddish-black; iris brown. Culmen 0·85, wing 5·8, tail 4·5, tarsus 1·3 inch. In winter the plumage is duller; the head shaded with brown, the feathers on the breast and flanks margined with fulvous white; beak horn-brown, yellowish at the base. The young bird has the upper parts much duller and striped with ochreous; the rump tinged with ochreous; under parts ochreous, becoming white on the lower breast and abdomen; the breast closely spotted with blackish.

Hab. Northern Europe and Asia as far east as the Yenesei valley occurring, though rarely, further east to Dauria, breeding in Scandinavia and North Russia and occasionally in North Germany and Central Russia; in winter passing south to N. Africa, Turkestan, Kashmir, and N.W. India. A winter visitant only to Great Britain.

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It frequents wooded and cultivated localities preferring woods of birch and pine. Its usual call-note is a loud harsh cackle but it utters also a softer one resembling the syllables *qui-qui*. Its song which is usually uttered when the bird is on the wing is poor. It breeds in scattered colonies, the nest being placed on a tree or bush, or occasionally on a stump, and constructed of grass-bents, pine-twigs, and moss, the foundation plastered with clay, and the lining is usually of fine grass. The eggs from 4 to 6 in number are greenish-blue, marked with reddish brown, richer coloured and more sparingly marked than those of *T. merula*, and larger than those of *T. iliacus*, averaging about 1·5 by 0·85. They are subject to considerable variation in tone of ground-colour and markings.

10. Redtailed Fieldfare.

TURDUS NAUMANNI.

Turdus naumanni Temm. Man. d'Orn. éd. 21, ii. p. 170 (1820); Naumann, ii. p. 288, Taf. 68, 358; Dresser, ii. p. 59, pl. vi.; Seebohm, Cat. B. Br. Mus. v. p. 264; Tacz. F. O. Sib. O. p. 294; David and Oust. Ois. Chine, p. 153.

Ad. (N. Siberia). Above greyish brown, more or less marked with chestnut-red; rump, upper tail-coverts and tail foxy-red, the last paler; throat, breast, and flanks foxy-red; a line of black spots on each side of the throat; abdomen white, slightly marked with rufous; axillaries, under wing- and tail-coverts fox-red; bill blackish brown, yellowish at the base; legs light brown; iris dark brown. Culmen 0·8, wing 5·5, tail 4·1, tarsus 1·3 inch. The female is rather more olivaceous above, but the breast less rufous, the throat white washed with rufus, both spotted with blackish. The young bird has the upper parts, including the rump, olivaceous brown, the streak over the eye buffy white, the throat spotted with blackish brown, the flanks slightly marked and the breast washed with rusty-red. In the winter dress the feathers on the breast and flanks are margined with white.

Hab. Northern Asia, eastward to Japan; a rare straggler to Europe, where it has occurred in Hungary, Austria, Germany, Belgium, and Southern France, and doubtfully in Italy. It winters in China but has not been recorded from India.

In general habits it resembles *T. dubius*, but is less shy and affects pine-woods. Its song is sweet and clear and is said to resemble that of *T. musicus*. Nothing definite was known of its

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nidification until Mr. Popham found a nest containing eggs in the Yenesei valley and shot the female as she left her nest. These eggs so closely resemble some of those of *T. dubius*, that it is scarcely possible to identify them unless by obtaining the parent bird.

11. Gould's Thrush.

TURDUS GOULDI.

Turdus gouldi, Verr. Nouv. Archiv. Mus. Hist. Nat. vi. Bull. p. 34. (1870); Prjev. in Rowley's Orn. Misc. ii. p. 198; David and Oust. Ois. Chine. p. 148, pl. xxxiv; Seebohm, Cat. B. Br. Mus. v. p. 260; Pleske, Prjevalsky's Reisen, Vögel, ii. p. 18.

♂ *ad.* (Mongolia). Head and neck slaty brown, crown darker, back, scapulars, and rump rich chestnut; wings and tail blackish brown; under part chestnut, the centre of abdomen dirty white; under wing-coverts chestnut, under tail-coverts varied black, white, and chestnut; bill yellow; legs pale brown; iris brown. Culmen 1·06, wing 5·6, tail 4·7, tarsus 1·4 inch. The female is paler and duller, and has the throat finely streaked with dull white. The male nestling has the head and neck blackish with brown margins, sides of neck and cheeks tinged with dull yellowish white; upper parts rusty-red, nape and tail-coverts brownish, all with white or reddish white shaft stripes and black tips; throat yellowish white; under parts irregularly banded with black and yellowish ochreous; bill brown, lighter towards the tip; legs pale brownish. The female nestling is paler, the crown, nape, and hind neck are earth-brown, the throat is white, striped with black on the sides; under parts ochreous, the breast and flanks washed with rusty-red, and breast and abdomen barred with blackish brown. The young bird has the bill brown, lighter towards the tip, legs light brown.

Hab. Kansu, Western Szechuen, and Moupin, where it is common.

In summer it inhabits the forests high up in the mountains, descending to the valleys in winter when it is often seen near human habitations. It is said to breed in the thickets which fringe the mountain streams but its nest and eggs are unknown. Its song is said to resemble that of *Turdus merula* but is harsher and less silvery in tone. When in company with its young it utters a call like that of *Lanius tephronotus*.

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12. Kessler's Thrush.

TURDUS KESSLERI.

Turdus kessleri, Prjev. Mong. i Strana Tangut. p. 62, pl. x. (1876); id. in Rowley's Orn. Misc. ii. p. 198, pl. liv; (Seebohm), Cat. B. Br. Mus. v. p. 261; Pleske, Prjevalsky's Reisen, Vögel, ii. p. 21, Taf. v. fig. 2, (eggs).

♂ *ad.* (Kansu). Head, neck, wings, and tail blackish; back and lower breast buff; scapulars, rump, flanks, and abdomen chestnut red; under wing-coverts buffy white with brown tips; bill yellow; legs brown. Culmen 1·0, wing 6·0, tail 4·6, tarsus 1·4 inch. In the female the head, neck, wings, and tail are sooty grey, the latter tinged with brown; upper parts brownish grey, rump washed with rusty ochreous; abdomen and flanks brighter rusty ochreous; bill horn-coloured at the base, yellowish at the tip. The nestling male has the crown, nape, hind-neck, and ear-coverts blackish brown, the hind-neck slightly spotted with buffy white; back and scapulars ashy grey at base, then blackish with a sub-terminal buffy white band; rump paler; upper tail-coverts blackish grey with whitish shaft-stripes and tips; under parts dull brownish yellow, irregularly banded; breast and moustache distinctly spotted; sides of neck spotted with blackish; flanks marked with chestnut; upper wing-coverts black, the lesser broadly, the median narrowly margined with reddish yellow, the former having also reddish yellow stripes; wings and tail blackish. The female nestling is much paler and the bars are finer and closer.

Hab. Kansu, the Upper Chuanche, and southern Koko-nor mountains.

It inhabits woods both deciduous and conifer in the mountains, bushes in the alpine districts, and juniper thickets in the lower alpine region, occurring up to an altitude of 12,000 feet. In spring and autumn it is seldom seen in pairs but in flocks of three to ten individuals. Fledged young were seen in July and family parties in August. In habits it resembling *Turdus gouldi*, and is an equally good songster; its song resembles that of the Song Thrush. Its call note resembles the syllables *tschok, tschok, tschok*. Two nests taken by Prjevalsky in the Southern Koko-nor Mountains on the 26th of May, contained 3 and 4 fresh eggs, and were placed in rocks under a protruding stone, one about seven and the other about fourteen feet above the dry bed of a stream, and placed where they were easily seen. One was built entirely of grass-bents and the other of grass-bents lined with hair, and feathers of *Perdix sifanica*. The eggs resembled those of the Fieldfare but several were so closely spotted that the ground colour was scarcely

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visible. In size they varied from 33 by 23 to 31·6 by 22·25 millimetres (1·30 by 0·91 to 1·23 by 0·88 inch). Both male and female took their share in incubating.

13. Swinhoe's Thrush.

TURDUS HORTULORUM.

Turdus hortulorum, Sclater, Ibis, 1863, p. 196 ; (Seebohm), Cat. B. Br. Mus. v. p. 267 ; *Turdus cardis*, (nec. Temm.), Swinhoe, Ibis, 1861, p. 37 ; *T. pelios* (nec. Bp.), Cab. J. f. O. 1870, p. 238 ; Tacz. F. O. Sib. O. p. 311 ; *T. campbelli*, Swinh. Ann. Nat. Hist. 1873, p. 374 ; *T. chrysopleurus*, id. Ibis, 1874, p. 444, pl. xiv.

♂ *ad.* (E. Siberia). Upper parts pale slate-grey, crown tinged with greyish, lores brownish, throat and breast whitish grey, the former streaked with darker grey ; lower breast, flanks, axillaries, and under wing-coverts rich deep orange red ; beak and legs yellow, iris brown. Culmen 0·85, wing 4·6, tail 3·2, tarsus 1·3 inch. The female differs in having the upper parts almost uniform olive brown, the middle of the throat nearly white and the cheeks and breast spotted with dark brown. The young bird has the upper parts greyish brown, the crown striated, the sides of the head pale grey, throat white, moustachal stripe brown ; molar stripe white ; lower throat buff, spotted ; centre of abdomen white, the flanks pale rufous.

Hab. Eastern Siberia, the Ussuri country, and the coasts of the sea of Japan, wintering in Southern China.

It arrives in the Ussuri country early in May, inhabits the forests, and is extremely shy. It is an excellent songster surpassing it is said all other Siberian Thrushes. The nest, which is placed in a tree, is constructed of grass-bents, plant stems, and rootlets and lined with similar but finer materials, The egg is pale green spotted and marked with rusty-red and measures 25 by 19 millimetres (0·99 by 0·75 inch).

14. Japanese Brown Thrush.

TURDUS CHRYSOLAUS.

Turdus chrysolaus, Temm, Pl. Col. pl. 537 (1831) ; Temm and Schleg. Faun. Jap. Aves, p. 64, pl. xxviii ; Schrenck Reis. &c., Amurl. i. p. 352 ; (Seebohm), Cat. B. Br. Mus. v. p. 275 ; Tacz. F. O. Sib. O. p. 313.

Akahara, Japanese.

♂ *ad.* (Japan). Upper parts pale russet-brown, the head tinged with grey ; lores, darker ; chin and throat sooty-brown ; breast and flanks rich fox-red ; abdomen and under tail-coverts white ; axillaries and under wing-coverts pale slate-grey tinged with dull white ; beak brown, paler at base

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of lower mandible; legs pale brown. Culmen 0·8, wing 4·8, tail 3·3, tarsus 1·2 inch. Female paler and duller, the throat slightly marked with dirty white. The young have the upper parts as in the adult but spotted with ochreous, the feathers tipped with black, these markings fainter on the rump; throat and flanks orange, becoming pale straw colour on the lower throat; flanks barred and throat spotted with black.

Hab. The Ussuri country in Eastern Siberia, Saghalien, and Japan, wintering in Southern China, Hainan, Formosa, and ranging as far south as the Philippines.

It breeds in Japan and on the island of Saghalien, its nest being placed usually in pine-trees from four to thirty feet above the ground, and the eggs, usually 4 in number, which are deposited from the latter part of May to the end of July, are greenish blue rather richly spotted with reddish brown and measure about 1·06 by 0·78.

15. Dusky Thrush.

TURDUS OBSCURUS.

Turdus obscurus, Gmel. Syst. Nat. i. p. 876 (1788); Tacz. F. O. Sib., O. p. 306; (Oates) F. Brit. Ind. Birds, ii. p. 134; Dresser, ii. p. 71, pl. 8; (Seebohm) Cat. B. Br. Mus. v. p. 273; Dresser, Ibis, 1901, p. 445, pl. ix. figs. 1–4 (eggs); *T. pallens*, Pall. Zoogr. Ross. As. i. p. 457, (1811); *T. pallidus* (nec. Gmel.) Temm. Man. d'Orn., iii. p. 97.

♂ *ad.* (Yenesei). Head and neck slaty brown; rest of upper parts olivaceous brown; wings and tail brown, the external rectrices tipped with white; a distinct superciliary stripe; chin and a patch below the eye white; breast and flanks orange buff; rest of under parts white; axillaries and under wing-coverts grey; bill brown; the lower mandible pale yellowish; iris brown. Culmen 0·8, wing 4·92, tail 3·7, tarsus 1·25 inch. The female is duller, has the head and neck brown, the eye-streak buffy white and the chin, throat, and sides of the neck dull white. The young has the head and upper parts olivaceous, spotted with ochreous, the feathers with dark tips; under parts white, throat and breast spotted with dark brown; flanks dull orange; superciliary streak indistinct.

Hab. Siberia from the Yenesei valley east to Lake Baikal and the Amoor, north to Kamchatka; Japan, China, and Mongolia on passage, wintering in Assam, Malacca, and the islands of the Malay Archipelago; of rare occurrence in Nepal, and Turkestan, and a rare straggler to Europe where it has occurred in Austria, Italy, Southern France, Holland, Belgium, and Germany.

This species frequents woodlands, usually pine, larch, and

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spruce groves, and differs little from its allies in its general habits. Its song is clear and rich, but it seldom gets beyond two or three notes. Its nest is placed on a tree at an altitude of from 15 to 20 feet; resembles that of a Fieldfare, is strongly built and lined with fine grass and dry larch needles. The eggs 4 to 5, seldom 6, are deposited in June, and resemble small eggs of the Blackbird, but are sometimes more richly spotted and blotched with rusty-red, and in size measure about 1·06 by 0·75.

16. Red-Throated Thrush.

TURDUS RUFICOLLIS.

Turdus ruficollis, Pall. Reis. Russ. Reichs. iii. p. 694 (1776); Naumann, xiii. p. 316, Taf. 360; Gould, B. of Asia, iii. pl. 66; Dresser, ii. p. 67, pl. 8; Tacz. F. O. Sib. O. p. 300; David and Oust. Ois. Chine, p. 156; (Seebohm), Cat. B. Br. Mus. v. p. 269; (Oates) F. Brit. Ind. Birds, ii, p. 130.

♂ *ad.* (E. Siberia). Upper parts greyish olive brown, superciliary stripe, chin, and throat rich chestnut red; under parts white; outer tail feathers fox red; flanks washed with grey; under wing-coverts and axillaries orange red; beak horn-brown, paler at the base; legs light brown; iris brown. Culmen 0·8, wing 5·3, tail 4·1, tarsus 1·35 inch. The female differs in having the throat rufous buff, marked with grey and rufous, the superciliary stripe buffy white, and the lower throat marked with brown. The young bird has the upper parts marked with buffy white, and the throat and upper breast buff, spotted with brown, the abdomen spotted with brown, and the tail narrowly tipped with dull white.

Hab. Eastern Siberia and central Asia, wintering in Turkestan, Afghanistan, the Himalayas, Mongolia, and China; has strayed to Europe, having been obtained in Heligoland and Germany.

Like its allies this Thrush frequents wooded localities and is said to be shy and unobtrusive in its habits. It probably breeds in Eastern Siberia, but its nest and eggs are as yet unknown.

17. Black-Throated Thrush.

TURDUS ATRIGULARIS.

Turdus atrigularis, Temm. Man. d'Orn. i. p. 169 (1820); Gould, B. of E. ii. pl. 75; id. B. of Gt. Brit. ii. pl. 36; Dresser, ii. p. 83, pl. ii.; (Seebohm) Cat. B. Br. Mus. v. 267; Tacz. F. O. Sib. O. p. 305; (Oates) F. Brit. Ind. Birds, ii. p. 131; Newton, i. p. 276; Saunders, p. 9; Lilford, iii. p. 88, pl. 44; Dresser, Ibis, 1901, p. 446, pl. ix. figs. 9–12 (eggs); *T. bechsteini*, Naumann, ii. p. 310, Taf. 69, figs. 1, 2, 361, figs. 1, 2.

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♂ *ad.* (Turkestan). Upper parts greyish brown, the wings and tail dull brown; chin, throat, and upper breast black; under parts white, the flanks streaked with blackish, the under wing-coverts and axillaries tinged with reddish orange; bill yellow at the base, blackish at the tip; legs light yellowish brown; iris dark brown. Culmen 0·85, wing 5·25, tail 4·0, tarsus 1·3 inch. In the female the throat and breast are dull white, striped and marked with black. The young bird resembles the female, but the throat and breast are rather more boldly marked with blackish.

Hab. Asia north to the Ob and northern Yenesei, south to the Altai and Turkestan, east to Lake Baikal; in winter migrating south to Assam, northern India, Baluchistan, and Afghanistan; has occurred in Europe as a rare straggler in the Caucasus, Hungary, Austria, Germany, Denmark, Belgium, France, and once in Great Britain.

In its general habits this Thrush resembles *T. ruficollis*, and like that bird frequents wooded districts, but usually near water. It feeds on insects, and berries, worms, etc. It has been found breeding in the Altai range, and at Imbatskaya on the Yenesei river, and places its nest, which is constructed of dry grass with a lining of mud, and an inner lining of broad dry grass, on small fir-trees at an altitude of 3 to 6 feet, and in June deposits 4 to 6 eggs, which vary considerably, some resembling the ordinary type of the Blackbird, whereas others more resemble those of the Mistle Thrush, but have the ground colour of a deeper blue. In length they vary from 1·08 to 1·15, and in width from 0·77 to 0·84.

18. Pale Thrush.

TURDUS PALLIDUS.

Turdus pallidus, Gmel. Syst. Nat. i. p. 32 (1788); Gould B. of E. ii. pl. 80; David and Oust. Ois. Chine, p. 151; Tacz. F. O. Sib. O. p. 309; (Seebohm) Cat. B. Br. Mus. p. 274; *T. daulias*, Temm. Pl. Col. No. 515 (1831); id. and Schleg. Faun. Jap. Aves. p. 62, pl. 26.

Shiropara, Jap.

♂ *ad.* (Japan). Upper parts warm russet brown, crown olivaceous; outer tail feathers with a large white terminal patch; no superciliary stripe; lores very dark; sides of head, throat, breast, and flanks slaty grey, the last tinged with brown; middle of throat marked with white; middle of abdomen and under tail-coverts white; axillaries greyish white; beak brown; the lower mandible yellowish white; legs pale brown; iris brown. Culmen 1·0, wing 4·9, tail 3·6, tarsus 1·2 inch. In the female the

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whole middle of the throat is white, and the sides of head and throat paler and brownish-tinged. The young bird is duller in colour, and the wing-coverts are white spotted.

Hab. Eastern Siberia and Japan; Mongolia, Manchuria, and Corea on passage, and winters in China; has occurred as far west as Assam.

In habits this Thrush resembles its allies and frequents wooded localities. It is, however, said to be very shy and wary. Its song which is generally uttered from some tree-top is said to be sweet in tone. It has been found breeding near the mouth of the Ussuri river in E Siberia; its nest which is placed on the branches of a tree is constructed of dry roots of *Vaccinium*, dry herbs, grass, moss, and pine-needles, and lined with fine grass-bents. The eggs 4 to 5 in number are usually deposited in June, and are pale bluish green rather finely spotted with reddish brown and vary from 29.2 by 19.5 to 32 by 20 mm. (1.15 by 0·77 to 1.26 by 0·79 inch.)

19. White's Thrush.

TURDUS VARIUS.

Turdus varius, Pall. Zoogr. Ross. As. i. p. 449 (1811); (nec. Horsfield 1811); Dresser, ii. p. 77, pl. 10; Newton i. p. 251; (David and Oust.) Ois. Chine p. 158; (Seebohm) Cat. B. Br. Mus. v. p. 151; Tacz. F. O. Sib. O. p. 280; Saunders, p. 11; Lilford, iii. p. 78, pl. 39; *T. whitei*, Eyton Rar. Brit. B. p. 92 (1836); Gould, B. of E. ii. p. 81; Naumann, xiii. p. 354; Newton P. Z. S. 1897, pl. li. fig. 5 (egg). *Oreocincla aurea* (Hol.), Gould, B. of Gt. Brit. ii. pl. 39.

Mame-jiro, Jap.

♂ *ad.* (Japan). Upper parts ochreous brown, under parts pale ochreous white, both above and below, marked with black, transverse bands; axillaries white on the basal, and black on the terminal half; tail composed of fourteen feathers; upper mandible dark brown, the lower one pale yellowish tipped with brown; legs dull yellowish brown; iris dark brown. Culmen 1·0, wing 6·5, tail 4·75, tarsus 1·35 inch. Female similar, but rather paler.

Hab. Eastern Siberia, Japan, and northern China, in winter migrating to southern China; has strayed as far west as Europe where it has been obtained in Austria, the Tyrol, Italy, southern France, Germany, Belgium, Heligoland, (where it has been obtained at least thirteen times), Sweden (once), Norway (once), Great Britain and Ireland.

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White's Thrush is said to obtain its food on the ground, and feeds exclusively on insects when such are obtainable. Its note is loud and sibilous, and, according to Godlewski, it utters, when perched on a branch, at long intervals, a melancholy whistle, very difficult to describe. Swinhoe describes it as being shy and solitary in its habits, and its flight as low and undulating. It breeds in Eastern Siberia, northern China, and Japan, but fully authenticated eggs have as yet not been obtained, though eggs said to be those of this species, all differing from each other, have been sent from three sources. So far as I can judge, that figured by Prof. Newton (*ut suprà*) received through Canon Tristram from Prof. Ijima of Tokio, is most probably authentic.

20. Blackbird.

TURDUS MERULA.

Turdus merula, Linn. Syst. Nat. i. p. 295 (1766); Naumann, ii. p. 326, Taf. 71; Hewitson, i. p. 91, pl. xxv. figs. 1, 2; Newton, i. p. 280; Dresser, ii. p. 91, pl. 13; Seebohm, Cat. B. Br. Mus. v. p. 235; Saunders, p. 13; Lilford, iii. p. 92, pl. 46. *Merula maxima*, Seebohm, tom. cit. p. 405 (1881).

Merle noir, French; *Merol-preto*, Portug.; *Mirlo*, Span.; *Merlo comune*, Ital.; *Schwarz-Drossel*, German; *Zwarte Lijster*, Dutch; *Sort-Drossel*, Dan.; *Solsort*, Norweg.; *Koltrast*, Swed.; *Mustorastas*, Finn.; *Tscherny-Drozd*, Russ.

♂ *ad.* (England). Entire plumage glossy black; bill orange; legs and feet brown, the soles yellow; iris brown; eyelids yellow. Culmen 1·05, wing 4·8, tail 4·4, tarsus 1·35 inch. The female has the upper parts dark olivaceous brown, the throat and sides of neck greyish white, spotted and streaked with dark brown; upper breast reddish brown, mottled with dark brown; rest of under parts greyish, the flanks washed with brown; the bill brown. The young bird has the upper parts brown, streaked with fulvous, the lower back and rump washed with rufous, the underparts pale or orange rufous barred and spotted with brown.

Hab. Europe generally, mostly resident, of accidental occurrence as far north as Iceland and Jan Mayen Island; the Azores, Canaries, and Madeira; in Asia as far east as Persia, Afghanistan, Turkestan, and Kashmir; North Africa.

Frequents woods, groves and gardens, and feeds on slugs, snails, worms, insects, berries, and fruit; its flight except in the

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open is fitful and wavering, and when it flies off it utters a loud chuckling cry. Its song, which is clear, loud, and melodious, may be heard from the middle of February to the beginning of August, and occasionally even in winter, and at all hours of the day. It breeds almost throughout its range from late in March to June according to latitude, the nest, which is constructed of twigs, rootlets, grass-bents, and leaves, well cemented together with mud, and lined with fine grass, is placed in a bush or tree, amongst ivy, on a wall, or even occasionally on the ground. The eggs 4 to 6 in number are usually greenish blue in ground colour, closely spotted with reddish brown, but are subject to considerable variety. *Merula maxima* Seebohm, is only a large form of the present species, and, it appears to me not even subspecifically separable.

21. Grey Japanese Thrush.

TURDUS CARDIS.

Turdus cardis, Temm. Pl. Col. ii. p. 518, (1824); id. and Schleg. Faun. Jap. Aves. p. 65, pls. xxix, xxx; David and Oust. Ois. Chine. p. 150; (Seebohm), Cat. B. Br. Mus. xxv. p. 261.

Kuro-tsugu, Ko-ke, Japanese.

♂ *ad.* (Japan). Upper parts, neck and upper breast black; the wing-coverts, lower back rump and upper tail-coverts washed with slate grey; under parts white spotted with black; under wing-coverts and axillaries dark slate-grey; bill and legs yellow; iris dark brown. Culmen 0·8, wing 4·45, tail 3·0, tarsus 1·2 inch. The female is olivaceous brown above, white spotted with dark brown below, the breast and flanks washed with pale orange red; under wing-coverts and axillaries orange chestnut; bill brown. The young male resembles the female but has the breast and flanks washed with chestnut red.

Hab. Japan, wintering in southern China.

In habits not differing from its allies, frequenting woods, groves, and gardens. It is greatly esteemed as a cage-bird on account of its rich song. It breeds in Japan in May, June, and July; its nest being generally placed in the fork of a small tree and is constructed chiefly of moss. The eggs, 4 to 5 in number, resemble small eggs of *T. viscivorus* and measure about 1·7 by 0·84.

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22. SIBERIAN THRUSH.

TURDUS SIBIRICUS.

Turdus sibiricus, Pall. Reis. Russ. Reichs. iii. p. 694, (1776); Gould. B. of Gt. Brit. ii. pl. 40; Dresser, ii. p. 87, pl. 12; David and Oust. Ois. Chine, p. 149; (Seebohm). Cat. B. Br. Mus. v. p. 180; (Tacz.) F. O. Sib. O. p. 282; (Oates), F. Brit. Ind. Birds, ii. p. 138; Saunders, p. 12; Lilford, iii. p. 89, pl. 45; Dresser, Ibis. 1901, p. 447, pl. ix. figs. 13, 16, (eggs). *T. bechsteinii*, Naumann, ii. p. 310, pl. 69, figs. 1, 2.

Toratsugumi, Mamie-jiro, Japanese.

♂ *ad.* (Japan). Upper parts black tinged with slate grey; under parts dark slate grey; middle of the abdomen and a conspicuous superciliary stripe white; bill blackish horn paler at the base; legs light brown; iris dark brown. Culmen 0·85, wing 4·65, tail 3·45, tarsus 1·2 inch. The female is olive brown above, white washed with buff below, the throat, breast, and flanks spotted with brown. In all plumages this species is recognizable in having a white or whitish band across the under surface of the wing.

Hab. Siberia, east of the Yenesei valley and Japan, wintering in China, Burma, Java, and Sumatra; the Adamans; has strayed to Europe where it has occurred in Turkey (once), Germany, France (once), and Great Britain (once).

In habits this thrush is essentially terrestrial, obtaining its food, which consists of worms, snails, insects, &c., on the ground, and it frequents wooded damp localities. Its song is said to be extremely sweet and melodious. It breeds in Siberia in from 66° to 68° N. lat., and in Japan, constructing a somewhat untidy nest of dry grass with a scanty wall of mud and an inner lining of coarse dry grass, which is usually placed in the fork of a tree a few feet from the ground. The eggs, 4 to 6 in number, are deposited late in June, and vary considerably, some resembling those of *T. viscivorus*, others being pale blue green finely spotted with reddish. In size they vary from 1·02 by 0·78 to 1·18 by 0·87.

23. RING OUSEL.

TURDUS TORQUATUS.

Turdus torquatus, Linn. Syst. Nat. i. p. 296 (1766); Naumann, ii. p. 318, Taf. 70; Hewitson, i. p. 93, pl. xxv. figs. 3, 4; (Gould.) B. of E. ii. pl. 73; id. B. of Gt. Brit. ii. pl. 38; Dresser, ii. p. 113, pl. 14; (Seebohm), Cat. B. Br. Mus. v. p. 246; Newton, i. p. 287; Saunders, p. 15; Lilford, iii. p. 94, pl. 47.

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Merle à plastron, French; *Melro de peito branco*, Portug.; *Churlo*, Span.; *Merlo col petto bianco*, Ital.; *Ring-Amsel*, German; *Dominé* Dutch: *Ring-Drossel*, Dan.; *Ringtrost*, Norweg.; *Ring-Trast*, Swed.; *Cappis-rastas*, Lapp.; *Sepel-rastas*, Finn.; *Drozd-bielozobyi*, Russ.

♂ *ad.* (Scotland). Entire plumage brownish black except a white gorget extending across the lower throat; axillaries and under wing-coverts deep brown margined with white; bill orange; legs horn-brown; iris dark brown. Culmen 1·0, wing 5·7, tail 4·4, tarsus, 1·3 inch. Female dull brown, the gorget brownish white. In winter the feathers on the under parts are margined with white, and on the upper parts with brownish.

Hab. Europe, north to the North Cape, east to the Ural, south in winter to the Mediterranean and North Africa.

Frequents moors and especially highlands, but in the winter, and on passage is often seen in cultivated fields and gardens, and is as a rule very shy and wary. Its call-note is a sharp *teck, tŏck, tŏck*, and its song is monotonous and not of a high order. Its food is similar to that of its allies, and is obtained chiefly on the ground. It breeds in April or May, sometimes in June, its nest which resembles that of *T. merula*, being placed in a low bush, in rocks, banks, or on the ground, and the eggs 4 to 5 in number are pale green or watery blue, blotched and spotted with dark red and in size vary from 1·05 by 0·82 to 1·20 by 0·88.

24. Subsp. Turdus Alpestris.

Turdus alpestris, Ch. Brehm. Isis, 1828, p. 1281; Naumann, Taf. 361, fig. 3; Dresser, ix. p. 9, pls. 15, 635.

♂ *ad.* (Transylvania). Differs from *T. torquatus* in having the feathers on the under parts broadly margined with white and with a large white median patch, the female also having broad white margins. In winter the feathers on the upper parts have broad brown margins, and the white portions of the plumage are duller in colour.

Hab. The mountain ranges of south central and southern (chiefly south-eastern) Europe; Asia Minor, and it is probably this form which is found in Persia. In winter it descends to the lowlands, and probably visits North Africa.

In habits it resembles *T. torquatus*, but its song is said to be more powerful and of a higher quality, and it differs in placing its nest in a tree, usually a spruce, at from 15 to 50 feet above the ground. Its eggs resemble those of *T. torquatus*, but are, as a rule, bluer in tone of ground colour, and less boldly marked.

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MONTICOLA, Boie, 1822.

25. Rock Thrush.

MONTICOLA SAXATILIS.

Monticola saxatilis, (Linn.) Syst. Nat. i. p. 294 (1766); (Naumann), ii. p. 348, Taf. 73; (Hewitson). i. p. 95. pl. xxvi. fig. 2; (Gould), B. of E. ii. pl. 86; (id.) B. of Gt. Brit. ii. pl. 44; Dresser, ii. p. 129, pls. 16, 17; Seebohm, Cat. B. Br. Mus. v. p. 313; Oates, F. Brit. Ind. Birds, ii. p. 147; Tacz. F. O. Sib. O. p. 319; Saunders, p. 17; Lilford, iii. p. 96, pl. 48.

Merle de roche, French; *Melro das rochas*, Portug.; *Mirlo pintado*, Span.; *Codirossone*, Ital.; *Steindrossel*, German; *Kamennŏi-Drozd*, Russ.

♂ *ad.* (Greece). Head and neck ashy cobalt blue; fore part of back and scapulars black; middle of back white; rump grey and white; upper tail-coverts and tail cinnamon, the middle rectrices darker; wings brown; under parts rich orange red; bill black; legs brown; iris brown. Culmen 0·9, wing 4·7, tail 2·6, tarsus 1·15 inch. The female is brown above with darker markings and tinged with blue; middle of back mottled with creamy buff; chin and throat whitish; rest of under parts buffy white. washed with orange and scalloped with brown. In winter the feathers above have reddish tips, and below white margins.

Hab. Central and southern Europe; Asia Minor and Asia north to southern Siberia, east to Dauria, south to China and northern India in winter and on passage; north Africa on passage and Senegambia and Abyssinia in winter; England (once).

Frequents rocky and stony localities, old ruins, and gardens where there are old walls, and in general habits forms a link between the Thrushes and Chats. Its food consists of worms, beetles, and insects of various kinds and their larvæ. Its song is sweet and varied, and it is highly esteemed as a cage-bird. It breeds late in May or early in June, and places its nest, which is loosely constructed of roots and grass-bents, lined with fine rootlets, and occasionally a few hairs and feathers, in the crevice of a rock or amongst stones, and deposits 4 to 5 uniform light blue, or greenish blue eggs, which are sometimes finely dotted with pale rufous, and measure about 1·0 by 0·75.

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26. White Throated Rock Thrush.

MONTICOLA GULARIS.

Monticola gularis (Swinhoe), P. Z. S., 1862, p. 318 (id) Ibis, 1863 p. 93, pl. iii; David and Oust. Ois. Chine, p. 161, pl. xlii; Tacz. F. O.-Sib. O. p. 323; Seebohm, Cat. B. Br. Mus. v. p. 326.

♂ *ad.* (S. E. Siberia). Head, nape, and lesser wing-coverts cobalt blue; ear-coverts, sides of neck, back and scapulars blackish; rump and upper tail-coverts chestnut; wings and tail brown, the latter slightly washed with blue; wing-coverts and inner secondaries paler margined; a median line down the throat white; rest of under parts chestnut red. Culmen 0·8, wing 3·9, tail 2·9, tarsus 0·95 inch. Female greyish brown above the back; rump and sides of neck with semicircular brown and ochreous markings; under parts greyish white, the middle of the throat and abdomen white; breast and flanks barred with brown.

Hab. South-eastern Siberia, Manchuria and northern China, passing further south in winter, when it has been found in Cambodgia.

Differs from *M. saxatilis* in frequenting dense forests where there are old trees. Its song is clear and melodious and is generally uttered when the bird is perched on the top of an old tree. It breeds in south-east Siberia and Manchuria, but its nest and eggs are as yet unknown.

27. Blue Thrush.

MONTICOLA CYANUS.

Monticola cyanus, (Linn.) Syst. Nat. i. p. 296 (1766); Naumann, ii. p. 341, Taf. 72, figs. 1, 2; Gould, B. of E. ii. pl. 87; id. B. of Gt. Brit. ii. pl. 43; Dresser, ii. p. 139, pl. 18; David and Oust. Ois. Chine, p. 163; Seebohm, Cat. B. Br. Mus. v. p. 316; Oates, F. Brit. Ind. Birds, ii. p. 147.

Melro azul, solitario, Portug.; *Solitario azul*, Span.; *Passera solitaria*, Ital.; *Blaumerle*, German; *Goluboi-Drozd*, Russ.

♂ *ad.* (N. Africa). General colour dull cobalt blue, the head and neck glossed with silvery blue; abdominal feathers and under tail-coverts with obsolete white margins; axillaries and under wing-coverts blackish blue; bill and legs blackish; iris dark brown. Culmen 1·0, wing 4·9, tail 4·4, tarsus 1·15 inch. Female greyish brown, mottled with paler brown above the rump, washed with blue; under parts warm buff, barred and mottled with dark brown. In winter the upper parts of the male have the feathers with paler margins, and the under parts with dull, white margins.

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Hab. Southern Europe, wintering in Africa as far south as Abyssinia; Asia Minor and Asia through Persia, Turkestan, Afghanistan, Tibet, and China, wintering in India and southern China; of very doubtful occurrence in Great Britain.

Frequents rocky and desert places, ruins, etc., and feeds on insects of various kinds, and will also eat berries and fruit; its song is melodious but plaintive, and it is highly esteemed as a cage-bird. Its nest, which is loosely constructed of rootlets and grass-bents, is placed in a crevice in the rocks, in ruined buildings, and even, in rare cases, in a low bush, and from April to June, according to latitude, 4 to 5 eggs are deposited, which are pale blue, sometimes marked with a few pale reddish dots at the larger end, and measure from 1·10 by 0·76 to 1·13 by 0·77.

28. Solitary Thrush.

MONTICOLA SOLITARIUS.

Monticola solitarius (P. L. S. Müller), Syst. Nat. Suppl. p. 145 (1776); David and Oust. Ois. Chine, p. 161; Seebohm, Cat. B. Br. Mus. v. p. 319; Tacz. F. O.-Sib. O. p. 321; *M. manillensis* (Gmel.), Syst. Nat. i. p. 833 (1788); (Temm. and Schleg.), Faun. Jap. Aves. p. 6.

Iso-hio-dori, Jap.

♂ *ad.* (Japan). Differs from *M. cyanus*, in having the upper parts rather bluer, and all the under parts from the lower breast rich chestnut-red; beak and legs black; iris brown. Culmen 1·0, wing 4·8, tail, 3·3, tarsus 1·1 inch. The female has the under parts pale whitey brown, washed with buffy brown, and barred with dark brown.

Hab. South-east Siberia, Japan, Corea, North-East China and Formosa, wintering in S. E. China, and the islands of the Malay archipelago.

Frequents similar localities to *M. cyanus* and resembles that species in general habits and nidification; its eggs are also similar but as a rule rather larger. It is said to be very shy and wary, and its song is described as being varied, melodious, and of a very high order.

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CINCLUS, Bechst. 1802.

29. Black-Bellied Dipper.

CINCLUS MELANOGASTER.

Cinclus melanogaster, Brehm. Lehrb. Eur. Vög. i. p. 289 (1823); Gould, B. of Gt. Brit. ii. pl. 42; Newton, i. p. 244; Dresser, ii. p. 177, pl. 20, fig. 2; Sharpe, Cat. B. Br. Mus. vi. p. 311; Saunders, p. 97; Lilford iii. p. 102, pl. 51.

Strœmstœr, Dan.; *Fossekal*, Norweg.; *Strömstare*, Swed.; *Koskikara*, Finn.; *Quoikgarek*, Lapp; *Vodianoi-vorobei*, Russ.

Ad. (Sweden). Crown and nape blackish brown; wings and tail blackish brown, externally margined with slate grey; back dark slate grey, squamated with blackish; throat, fore part of breast, and a small spot above and below the eye, pure white; rest of under parts blackish brown, the flanks washed with slate grey; bill blackish; legs brown; iris dark brown. Culmen 0·9, wings 3·7, tail, 2·25, tarsus 1·2 inch. The young bird has the upper parts dull slaty brown, the wing feathers tipped with white, the under parts white, barred with brown, flanks and anal regions slaty brown.

Hab. Scandinavia and Northern Europe, east to the Ural; the Færoes but not Iceland, in winter straying to N. Germany, Holland, Belgium, and England.

The Dippers, both the present species and its allies, are essentially water frequenters, living on running streams, especially where there are rapids and waterfalls. They are non-migratory only shifting their quarters in winter to lower altitudes when driven from their haunts by stress of weather. They dive with ease, and progress under water, using their wings as a mode of progression, and seek their food chiefly under water. They feed on aquatic insects of various kinds and their larvæ, and do not, as has been asserted, devour the spawn of fish. Their flight is rapid and direct, usually not high above the surface of the water. Their call note is a sharp *chit-chit*, and their song is pleasing though short, reminding one of that of the Wren. The nest is usually domed, constructed of various kinds of mosses forming a close felted mass with the entrance-hole in front, and lined with grass stems rootlets and dead leaves. *Cinclus albicollis* is however said to build an open nest. The eggs 4 to 5 in number are pure white, glossy in texture of shell, rather elongated in shape

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averaging about 1·0 by 0·73, and are deposited in March or April and two broods are usually reared in the season. The nest is carefully concealed, placed under shelter of an overhanging crag or rock close to the water, sometimes behind a small waterfall. Dippers being essentially non-migratory, isolation has caused the group to be separated into various local forms which have become permanently distinct and separated, though the differences are but slight; but they do not appreciably differ in note, food, habits, or nidification, and it appears to me advisable to treat these as sub-species, which have probably descended from one parent stock, most likely *C. melanogaster*.

30. Subsp. Cinclus aquaticus.

Cinclus aquaticus, Bechst. Orn. Taschenb. i. p. 206 (1802); Naumann, iii. p. 925, Taf. 91; Hewitson, i. p. 77, pl. xxii.; Gould B. of E. ii. pl. 83; Newton, i. p. 241; Dresser, ii. p. 167, pl. 19; Sharpe, Cat. B. Br. Mus. vi. p. 307; Saunders, p. 97; Lilford, iii. p. 99, pl. 50.

Aguassière, *Cincle-Plongeur*, French; *Waterspreeuw*, Dutch; *Wasseramsel*, German.

Ad. (Scotland). Differs from *C. melanogaster* in having the lower breast rich rusty-red, this colour merging into the black of the rest of the under parts. Culmen 0·82 to 0·9, wing 3·25 to 3·6, tail 2·1 to 2·45, tarsus 1·05 to 1·25 inch.

Hab. Great Britain and Ireland, France, Belgium, Holland, and Central Europe generally.

31. Subsp. Cinclus pyrenaicus.

Cinclus pyrenaicus, Dresser, Ibis, 1892, p. 382.

Ad. (Pyrenees). Differs from *C. melanogaster*, in having the wing shorter, the upper parts pale brown, especially the head and neck, and the under parts are paler and browner in tinge. Culmen 0·85, 0·95, wing 3·1 to 3·4, tail 2·0, tarsus 1·1 inch.

Hab. Pyrenees.

32. Subsp. Cinclus minor.

Cinclus minor, Tristram, Ibis, 1870, p. 497; Dresser, ix. p. 20.

Ad. (N. Africa). Resembles *C. pyrenaicus*, but is rather more rufous on the under parts, and has a narrow dull rufous band bordering the white. Culmen 0·85, wing 3·2, tail 2·0, tarsus 1·15 inch.

Hab. Atlas Mountains N. Africa.

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33. Subsp. Cinclus albicollis.

Cinclus albicollis, (Vieill.) Nouv. Dict. d'Hist. Nat. i. p. 219 (1816); Dresser, ii. p. 181, pl. 20, fig. 1; Sharpe, Cat. B. Br. Mus. vi. p. 310.

Ad. (N. Italy). Resembles *C. aquaticus*, but has the upper parts paler and the breast much brighter rufous, this colour extending on to the abdomen. Culmen 0·85 to 0·9, wing 3·2 to 3·45, tail 2·0 to 2·4, tarsus 1·15 to 1·27 inch.

Hab. Switzerland Savoy and Southern Europe as far east as Greece and Turkey.

34. Subsp. Cinclus rufiventris.

Cinclus rufiventris, Hempr. and Ehr. Symb. Phys. fol. *b. b.* (1828); Dresser, ix. p. 20.

Ad. Resembles *C. albicollis*, but has the abdomen rufous brown, and the brown on the upper parts extend down to the interscapulary region without squamations, as in *C. cashmiriensis*. Culmen 0·87, wing 3·15, tail 2·1, tarsus 1·15. inch

Hab. Palestine.

35. Subsp. Cinclus cashmiriensis.

Cinclus cashmiriensis, Gould, P. Z. S. 1859, p. 489; id. B. of Asia, iv. pl. 25; Dresser, ix. p. 17; Sharpe, Cat. B. Br. Mus. vi. p. 312; Oates, F. Brit. Ind. Birds ii. p. 162.

Ad. (Transcaspia). Upper parts as in *C. melanogaster*, but rather paler, the brown extending over the interscapulary region, the squamations commencing only below that part; under parts rather paler than in *C. melanogaster*, and the flanks less grey. Culmen 0·8 to 3·9, wing 3·25 to 3·9, tail 1·1 to 3·5, tarsus 1·8 to 2·5 inch.

Hab. Asia Minor, the Caucasus, Persia, Afghanistan, and Kashmir, east as far as Chinese Mongolia.

36. Subsp. Cinclus baicalensis.

Cinclus baicalensis, Dresser, Ibis, 1892, p. 385; id. B. of Eur. ix. p. 20.

Ad. (Lake Baikal). Differs from *C. cashmiriensis* in having the upper parts of a peculiar velvety, mouse-brown colour, the head and neck paler than the back, the entire upper parts down to the rump mouse-brown

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unsquamated, the lower rump and upper tail-coverts alone being squamated or marked with semicircular bars, and the dark portions of the under parts dull, dark-earth-brown. Culmen 0·8 to 0·9, wing 3·2 to 3·6, tail 2·0 to 2·1, tarsus 1·1 to 1·15 inch.

Hab. Siberia, in the Baikal district.

37. Subsp. Cinclus leucogaster.

"*Cinclus leucogaster* Eversm." Bonap. Consp. Gen. Av. i. p. 252 (1850); Gould, B. of Asia, iv. p. 24; Dresser ix. p. 20; Tacz. F. O. Sib., O. p. 211.

Ad. (Dauria). Differs from *C. baicalensis* in having the head and neck paler, and the under parts down to the vent white, excepting the flanks, which are brown. Culmen 0·8 to 0·9, wing 3·25 to 3·85, tail 2·0 to 2·4, tarsus 1·1 to 1·25 inch.

Hab. Altai range, Turkestan, Mongolia, and the countries north of Kashmir, ranging into the Baikal district.

38. Subsp. Cinclus saturatus.

Cinclus saturatus, Dresser, ix. p. 20 (1895). *C. sordidus*, (nec. Gould), Tacz. F. O. Sib., O. p. 214.

Ad. (Baikal District). Differs from *C. baicalensis* in having the white on the throat and breast obscured by brown so that the separts are whity-brown and not white. Culmen 1·2, wing 3·7, tail 2·35, tarsus 1·12 inch.

Hab. Irkutsk to the Baikal district, to S.W. Kansu and N. Tibet.

This is evidently the *Cinclus sordidus* of Russian authors, for the type was sent to me from Russia, as belonging to that species, from which, however, it differs considerably.

39. Brown Dipper.

CINCLUS ASIATICUS.

Cinclus asiaticus, Swains., Faun. Bor. Amer. Birds, p. 174 (1831), Gould, B. of Asia, iv. pl. 21; Sharpe, Cat. B. Br. Mus. vi. p. 314, Oates, F. Brit. Ind. Birds, ii. p. 163.

Nambong-karriak Lepch; *Chubia-nakka*, Bhut.

Ad. (Turkestan). Entire plumage chocolate brown, the head and neck rather paler, the feathers in places with rather paler margins. Culmen 0·92, wing 4·1, tail 2·95, tarsus 1·18 inch. The young have the upper parts grey, the feathers tipped with black, the sub-terminal portion more

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or less whitish, the quills and wing-coverts tipped and margined with white, tail dark brown tipped with white; sides of head grey with white shaft-streaks; under parts grey marked like the upper parts but with more pronounced black tips and sub-terminal white patches.

Hab. Turkestan, Afghanistan, and the Himalayas from Gilgit to Bhutan.

Like the white-breasted Dippers, this species frequents running streams, especially in rocky localities, and in general habits and note does not differ from those. It is found in the mountains at elevations of from 11,000 to 14,000 feet, according to the season. It breeds from March to December, the nest being large globular masses of moss, like a gigantic Wren's nest, and lined with dry leaves, fern, and fine rootlets, and placed in the cleft of a rock, usually overhanging the water. The eggs 5 in number are pure white like those of *C. melanogaster*, and average about 1·0 by 0·72.

40. Sombre Dipper.

CINCLUS SORDIDUS.

Cinclus sordidus, Gould, P.Z.S. 1859, p. 494; id. B. of Asia, iv. pl. 23; Sharpe, Cat. B. Br. Mus. vi. p. 317; Oates, F. Brit. Ind. Birds, ii. p. 165.

Ad. Head and neck brown with a faint rufous tinge; upper parts blackish slate; wings and tail dark brown, externally margined with slate; sides of head, throat, and breast pale chocolate or rufous buff; rest of the under parts dull dark umber-brown, the lower flanks and tail-coverts washed with slate. Culmen 0·8, wing 3·25, tail 1·8, tarsus 1·15 inch.

Hab. Northern Kashmir and Ladak. It is said to occur in Northern Tibet, but I have never seen a specimen from there, nor indeed any but the type which was obtained in Kashmir. It does not differ from its allies in habits, and its nest and eggs are unknown.

41. Pallas's Dipper.

CINCLUS PALLASI.

Cinclus pallasi, Temm. Man. d'Orn. éd. 2, i. p. 177 (1820); Gould, B. of E. ii. pl. 85, id. B. of Asia, iv. pl. 22; Sharpe, Cat. B. Br. Mus. vi. p. 316; Oates, F. Brit. Ind. Birds, ii. p. 164; (David and Oust.) Ois. Chine, p. 146; Tacz. F. O. Sib., O. p. 216.

Ad. (Japan). General plumage blackish brown or deep chocolate brown much darker than *C. asiaticus*; edge of the eyelid white; abdomen blackish brown; wings and tail blackish, externally margined

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with chocolate brown; bill blackish-horn; legs plumbeous in front; dusky behind; iris hazel. Culmen 1·0, wing 4·15, tail 2·65, tarsus 1·35 inch. The young bird has the sides of the head and neck, and the upper parts generally blackish brown with sub-terminal rufous margins; wings and coverts with white or pale rufous margins; tail black narrowly tipped with white; under parts blackish brown, the feathers fringed with ashy.

Hab. Eastern Siberia, Kamchatka, Corea, Japan, and the greater part of China.

In general habits it is said not to differ from its congeners, and like them frequents running streams, chiefly in the mountains. I do not find any description of its nest, but its eggs are similar to those of the European Dipper.

SAXICOLA, Bechstein, 1802.

42. The Wheatear.

SAXICOLA ŒNANTHE.

Saxicola œnanthe, (Linn.), Syst. Nat. i. p. 332, (1766); Hewitson, i. p. 110, pl. xxx. fig. 3; Naumann, iii. p. 863, Taf. 89, figs. 1, 2; Gould, B. of Gt. Brit. ii. pl. 65; Newton, i. p. 347 (1873); Dresser, ii. p 187, pl. xxi; Seebohm Cat. B. Br. Mus. V. p. 391; Oates, F. Brit. Ind. Birds, ii. p. 76; Tacz. F. O. Sib., O. p. 352; Saunders, p. 19; Lilford, iii. p. 22, pl. 11.

Motteux-cul-blanc, French; *Caiada*, Portug.; *Culiblanco*, Span.; *Culbianco*, Ital.; *Steinschmätzer*, German: *Tapint*, Dutch; *Stenskvette*, Dan.; *Stendulp*, Norweg.; *Stenskvätta*, Swed.; *Katgirastis*, Lapp; *Kivitasku*, *Kivi-rastas*, Finn.; *Poputchick*, Russ. *Stendepill*, *Icel.*

♂ *ad.* (Sweden). Upper parts to the rump ashy grey; forehead, a superciliary line, rump and upper tail-coverts white; a line from the lores to the ear-coverts black; wings blackish brown, central rectrices white at the base, otherwise black; remaining rectrices white broadly tipped with black; under parts white, or white washed with buff; under wing-coverts and axillaries mixed black and white; bill and legs black; iris brown. Culmen 0·75, wing 3·8, tail 2·35, tarsus 1·1 inch. The female has the upper parts brown; wings hair brown; tail as in the male but the black portion is brown in the female, under parts light reddish brown. The young resemble the female. In winter the male has the upper parts more or less brown, the under parts more rufous, the secondaries and wing-coverts edged with rufous, and the female is more rufous in tinge and has the secondaries and wing-coverts edged with rufous.

Hab. Europe generally, north to Iceland and Greenland, south to the Mediterranean, and northern Africa in winter; Asia

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Minor and Asia, north to northern Siberia, east to China, and south to N. India; a somewhat rare visitant to N. America.

Frequents open localities, both barren and fertile, especially stony places. It is essentially a ground bird, not perching on trees or bushes. Its flight is low, and not powerful, and its song, which is uttered either on the wing, or when perched on a stone or clod is sweet, but short. It breeds in the northern and central portions of its range, and its nest, which is large and flat, is loosely constructed of grasses, moss, rootlets, &c., and lined with moss, hair, feathers, wool, and is placed in a hole in a wall, amongst stones, in a rabbit burrow, or under a clod or stone on the ground. The eggs, usually from 5 to 7 in number, are deposited in April or May, and are pale blue, with a faint greenish tinge, usually unspotted, but occasionally with a few red dots; in size they vary from 0·80 by 0·57 to 0·90 by 0·65.

Specimens of the Wheatear vary considerably in size, those from Greenland being the largest, and those from Palestine and Egypt the smallest.

43. Seebohm's Wheatear.

SAXICOLA SEEBOHMI.

Saxicola seebohmi, Dixon, Ibis. 1882, p. 563, pl. xiv. Dresser, ix. p. 23, pl. 636; Koenig, J. f. O. 1895, p. 185, Tabb. iii., v. fig. 2.

♂ *ad.* (Algeria). Upper parts as in *S. œnanthe*, but the wings and dark portion of the tail are black, the lores, chin, sides of the head below the eye and the throat are black; rest of the under parts white; axillaries and under wing-coverts black edged with white at the tip; bill and legs black; iris dark brown. Culmen 0·68, wing 3·87, tail 2·45, tarsus 1·05 inch. The female resembles *S. œnanthe*, but is browner in colour. The young male differs from the adult in having the upper parts tinged with sandy buff, the black on the throat less extended, the wings brownish black, and the under parts dull white.

Hab. Algeria.

Frequents desolate, stony localities, and is not shy. Nothing is as yet known of its nidification.

44. Ehrenberg's Wheatear.

SAXICOLA VITTATA.

Saxicola vittata, Hempr. and Ehr. Symb. Phys. Aves. fol. C. C. (1828); Dresser, ix. p. 25, pl. 637 (1895).

♂ *ad.* (Arabia). Crown and hind-neck greyish white; back, wings, and a broad band from the lores to the base of the wing black; central

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tail-feathers white at base, otherwise black, remaining rectrices white, terminated with black; rest of the plumage white; bill and legs black; iris brown. Culmen 0·7, wing 3·9, tail 2·59, tarsus 0·7 inch. The female is said to resemble that of the Eastern pied chat, but to have the throat white. The young male has the crown obscured by dirty grey, the black portions of the plumage tinged with brown and the underparts washed with buff.

Hab. Transcaspia, Turkestan, and Gilgit, migrating for the winter to Arabia and Abyssinia.

It is said to breed in North Western Turkestan, but nothing is on record respecting its nidification, and but little is known of its habits.

45. Pied Wheatear.

SAXICOLA LUGENS.

Saxicola lugens, Licht. Verz. Doubl. p. 33, (1823), Seebohm, Cat. B. Br. Mus. v. p. 370; *S. leucomela*, (Pall.), Dresser, ii. p. 231, pl. 33, fig. 2; *S. erythræa*, id. ii. p. 219, pls. 28, 29; Koenig, J. f. O. (1895), p. 206, Tabb. iv. v. fig. 1; *S. persica*, Seebohm, Cat. B. Br. Mus. v. p. 372 (1881).

♂ *ad.* (Egypt). Crown, nape, rump, upper tail-coverts and basal part of tail, breast, and abdomen white, the crown tinged with grey; back wings, sides of head, and neck, throat and upper flanks black; central tail-feathers white at base, otherwise black, remaining tail-feathers white broadly tipped with black, all with narrow terminal white tips; under wing-coverts and axillaries black, inner quill-webs white; under tail-coverts pale rufous; legs and beak black; iris brown. Culmen 0·7, wing 3·75, tail 2·75, tarsus 1·0 inch. The female has the black replaced by brown, the head and nape washed with isabelline; entire under parts nearly white, the under tail-coverts washed with buff. The young male resembles the female but has the lores, ear-coverts, and cheeks nearly black, the throat varying from grey to dull black.

Hab. N. Africa from Algeria to Egypt; Nubia, Abyssinia, Arabia, Palestine, ranging east to Shiraz in Persia, and Sind. In habits it does not differ from its allies. It breeds in April and May, its nest being usually placed in a hole in the ground, and well concealed. Its eggs 5 to 6 in number, are deep blue-green spotted and blotched with reddish-brown.

Saxicola persica, of which I have examined the type, does not appear to me to be separable from this species.

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46. Eastern Pied Wheatear.

SAXICOLA MORIO.

Saxicola morio, Hempr. and Ehr. Symb. Phys. fol. *a a* (1828); Dresser, ii. p. 235, pl. 33, figs. 1–3; Seebohm, Cat. B. Br. Mus. v. p. 372; *Saxicola hendersoni*, Hume, Ibis, 1871, p. 408; *Saxicola talas*, Severtzoff, Turk. Jevot. p. 65, pl. viii. figs. 1, 3, 4 (1873); *S. pleschanka* (Lepech), Oates, F. Brit. Ind. Birds, ii. p. 73 (1890).

♂ *ad.* (Crimea). Differs from *S. lugens* in having the inner webs of the primaries black, these being white in that species, and the under tail-coverts and crissum are usually pure white. Culmen 0·7, wing 3·8, tail 2·5, tarsus 0·8 inch. The female has the crown, nape, and back, and the under parts down to the breast earthy brown, the throat marked with black. The young bird in first plumage resembles the female, but the dorsal feathers have pale margins, the lower throat and neck are dull isabelline, the pectoral band largely developed; flanks tinged with isabelline; wings brown; tail tipped with buff; base of the mandible brown.

Hab. Cyprus, the Crimea and the lower valley of the Volga, east to Kashmir, south-eastern Siberia, Tibet, Mongolia, and northern China, wintering in N.W. India, Abyssinia, and Arabia, and occasionally in Gilgit.

In general habits it differs somewhat from its congeners in frequently perching on bushes and even on the branches of trees. Its song is described as feeble but agreeable. It breeds in Siberia, north China, Afghanistan, and as far west as Palestine and Cyprus, and places its nest amongst stones, or in a cleft of a rock and deposits in June from 4 to 6 eggs, which are plain pale blue, unspotted or marked with fine red dots, chiefly at the larger end, and measure 0·725 by 0·565.

47. Hooded Wheatear.

SAXICOLA MONACHA.

Saxicola monacha, Rüpp. in Temm. Pl. Col. pl. 359, fig. 1 (1825); Dresser, ii. p. 239, pl. 34; Shelley, B. of Egypt, p. 78, pl. ii. Seebohm, Cat. B. Br. Mus. v. p. 369; Oates, F. Brit. Ind. Birds, ii. p. 69; *S. pallida*, Rüpp. Atlas. Taf. 34 (1826); *S. gracilis*, Licht. Nomencl. Av. p. 54 (1854).

♂ *ad.* (Egypt). Crown, nape, lower back rump, upper tail-coverts and under parts below the breast white; mantle, wings, throat, sides of neck and breast jet black; central rectrices with terminal half dark brown; the basal part and all the outer rectrices white, the latter with a few brown spots towards the tip; beak and legs black iris brown. Culmen 0·92, wing 4·1, tail 3·2, tarsus 0·95 inch. The female has the upper parts to the rump

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hair brown, quills and terminal portion of central rectrices darker brown; rump, upper tail-coverts, and tail pale yellowish rufescent; under parts creamy white.

Hab. Egypt, Nubia, Palestine, east through Persia to Baluchistan and Afghanistan.

Throughout its range this Wheatear is said to be resident. In its general habits it does not differ from its allies, but nothing definite is known respecting its nidification. It is easily recognizable by its long bill.

48. Black and White Wheatear.

SAXICOLA ALBINIGRA.

Saxicola albinigra, Hume, Stray Feathers, i. p. 2 (1873); Blanford, E. Pers. ii. p. 153, pl. xi; Dresser, ix. p. 27, pl. 638, fig. 2; Oates, F. Brit. Ind. Birds, ii. p. 70; Seebohm, Cat. B. Br. Mus. v. p. 366.

♂ *ad.* (Persia). Head, neck, upper back, wings, axillaries, and wing-coverts and terminal portion of tail deep black; rest of plumage white; tail narrowly tipped with white; beak and legs black; iris brown. Culmen 0·8, wing 3·9, tail 2·55, tarsus 1·05 inch. The female and young do not differ from the male.

Hab. Persia, Baluchistan, Afghanistan, Sind, and Gilgit.

Throughout its range this species appears to be resident, inhabiting the hills in summer and the lowlands in winter, and does not seem to differ from its allies in its general habits. In May Mr. Blanford found it nesting in a small cave under a limestone hill near Karmán, but the nest contained young birds. Mr. Zarudny, from whom I have received an egg, took the nest in Baluchistan on the 14th of May, 1901. The egg is very pale greenish blue, with a few scarcely visible reddish spots at the larger end, and measures 0·91 by 0·61.

49. Indian Pied Wheatear.

SAXICOLA PICATA.

Saxicola picata, Blyth, J. As. Soc. Beng. xvi. p. 131 (1847); Blanf. E. Persia, ii. p. 153; Gould, B. of Asia, iv. pl. 26; Seebohm, Cat. B. Br. Mus. v. p. 367; Dresser, ix. p. 29, pl. 639; Oates, F. Brit. Ind. Birds, ii. p. 71.

♂ *ad.* (Sind). Head, neck, throat, upper breast, back, and wings deep dull black; rump, upper tail-coverts, and under parts white; tail as in *S. œnanthe*; bill and legs black; iris brown. Culmen 0·65, wing 3·5, tail 2·7, tarsus 1·0 inch. The female differs in having the black portions of the

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plumage brown, the chin greyish brown. The young bird resembles the female, but has the under parts mottled. The old male has the crown more or less white, especially just before the moult.

Hab. Transcaspia, ranging east through Afghanistan and Persia to Gilgit, wintering in the lowlands, and on the plains of India, and has been recorded from Muscat in Arabia.

Frequents rocky localities and during the breeding season is found in the mountains to an altitude of nearly 6000 feet. It breeds from March to July, its nest, which is placed in a hole of a wall or cranny of a rock, is constructed of grass and lined with feathers, and the eggs, 4 to 5 in number, are pale greenish blue, marked chiefly at the larger end, with pale rusty-red, and measure 0·8 0·82 by 0·55 to 0·57.

50. White-headed Wheatear.

SAXICOLA CAPISTRATA.

Saxicola capistrata, Gould, B. of Asia, iv. pl. 28 (1865); Seebohm, Cat. B. Br. Mus. v. p. 368; Oates, F. Brit. Ind. Birds, ii. p. 72; *S. leucomela*, Jerdon, B. of Ind. ii. p. 131.

♂ *ad.* (Afghanistan). Differs from *S. picata*, in having after the autumn moult the forehead, crown, nape, and hind neck greyish white, sometimes whiter over the eye and ear-coverts. Soon after the autumn moult the crown becomes whiter. Culmen 0·65, wing 3·6, tail 2·7, tarsus 1·0 inch. The female resembles that of *S. picata*, but the upper parts are more sandy, and the chin, throat, and breast are light fulvous.

Hab. Turkestan, Afghanistan, and the plains of India as far south as Jodhpur and Sambhar and as far east as the Jumna river.

In its habits it does not appear to differ from *S. picata* but nothing is known of its breeding habits. It appears to be resident throughout its range.

51. White-rumped Wheatear.

SAXICOLA LEUCOPYGA.

Saxicola leucopyga, (Brehm), Vogelfang, p. 225 (1855); Dresser, ii. p. 243, pl. 35; Seebohm Cat. B. Br. Mus. v. p. 374.

Boudjahar, Arab.

♂ *ad.* (Nubia). Crown, nape, rump, tail-coverts, and all the tail-feathers except the middle ones white; terminal half of these last and two-thirds of the shafts black, the basal half white; rest of plumage glossy black;

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beak and legs black ; iris brown. Culmen 0·82, wing 4·1, tail 2·9, tarsus 1·1 inch. The female does not differ from the male, but the young bird has the black duller, and the crown black, with occasionally a white feather or two.

Hab. Algeria, ranging east to Egypt, Nubia, and Arabia, and north to Palestine. Everywhere resident.

It frequents rocky and stony places preferring the granite and limestone ranges and is shy and cautious. Its song is sweet and melodious. It feeds on insects but is said to eat the seeds of the pomegranate. It breeds in March, the nest being placed in a hole of a rock, but the eggs are, so far as I can ascertain, as yet unknown.

52. Black Wheatear.

SAXICOLA LEUCURA.

Saxicola leucura (Gmel.), Syst. Nat. i. p. 820 (1788) ; Dresser, ii. p. 247, pl. 36 ; Seebohm, Cat. B. Br. Mus. v. p. 375 ; Koenig. J. f. O. 1895, Taf. vi. (nest and eggs) ; *S. cachinnans*, Temm. Man. d'Orn. i. p. 236 (1820).

Kŏcheīl, Arab.

♂ *ad.* (Algeria). Upper and under tail-coverts pure white ; terminal half of middle and tips of the remaining rectrices black, the rest of the tail white ; all the rest of the plumage, the beak and legs black ; iris brown. Culmen 0·91, wing 3·66, tail 2·92, tarsus 1·08 inch. In the female the black is brownish black. The young bird is dull black, the under tail-coverts tipped with dull white, the upper tail-coverts pure white, and the tail black, tipped with white.

Hab. Southern Europe from Portugal to Greece, and Algeria, and is a resident, but many of those which breed in south Europe pass the winter in north Africa.

It frequents desolate stony localities and is shy but very lively in its habits. Its song is said to resemble that of the Blue Rock Thrush but is not so loud or clear. Its nest is placed in a hole, and it protects it by heaping up small stones at the entrance. It is constructed of dried plants and grass-bents and lined with hair and feathers. The eggs, from 4 to 6 or even 7 in number, are deposited from March to May and are very pale greenish blue, spotted at the larger end with pale rusty-red and measure 0·9 by 0·68.

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53. Strickland's Wheatear.

SAXICOLA OPISTHOLEUCA.

Saxicola opistholeuca, Strickl, in Jardine's Contrib. Orn. 1849, p. 60; (Gould) B. of Asia, iv. pl. 27 ; Blanf. and Dresser, P. Z. S. 1874, p. 229 ; Seebohm, Cat. B. Br. Mus. v. p. 376 ; Oates, F. Brit. Ind. Birds ii. p. 73 ; *S. leucuroides*, Guér. Jerdon, B. of Ind. ii. p. 130 (1863).

♂ *ad.* (India). Rump, upper and lower tail-coverts, and lower part of abdomen white ; rest of the plumage black except the tail, which has the middle feathers white on the basal third, otherwise black ; the remaining feathers white, broadly tipped with black ; bill and legs black ; iris brown. Culmen 0·6, wing 3·65, tail 2·8, tarsus 0·9 inch. The female resembles that of *S. picata*, but is very dusky throughout, and has the ear-coverts rich brown.

Hab. Turkestan, wintering in Afghanistan and the plains of India from the Punjab down to Khandesh and Nagpur, and from Sind to Etawah in the N.W. Provinces and has been also recorded from the lower hills of the Sutlej valley.

In habits this species does not seem to differ from its allies, but I can find nothing on record respecting its nidification.

54. Russet Wheatear.

SAXICOLA STAPAZINA.

Saxicola stapazina (Vieill.), Nouv. Dict. xxi. p. 425 (1818) ; Gould, B. of E. ii. pl. 91 ; Naumann, iii. p. 879, Taf. 90, fig. 1, 2 ; Seebohm, Cat. B. Br. Mus. v. p. 387 ; Saunders, p. 23 (1889) ; *S. rufa* (Brehm) ; Dresser, ii. p. 207, pl. 24, pl. 25, fig. 2.

Cul-blanc roux, French ; *Caiada*, Portug. ; *Ruiblanca*, Span. ; *Monachella colla gola nera*, Ital. ; *Boudjahar, Naïsch*, Arab.

♂ *ad.* (S. Spain). Crown, back, rump, upper tail-coverts, breast, and abdomen white, rest of the plumage black, crown marked with grey ; breast and back washed with rufous isabelline ; tail as in *S. œnanthe ;* beak and legs black ; iris brown. Culmen 0·68, wing 3·65, tail 2·6, tarsus 0·95 inch. The adult female has the upper parts earthy brown to the rump, which with the upper tail-coverts is white ; tail as in the male ; wings brown ; throat greyish white, without any traces of black ; rest of the under pale dull rufous white. In the winter the male has the upper parts pale ferruginous, the head browner, the breast lighter ferruginous, the abdomen and under tail-coverts washed with rufous ; quills brownish, the wing-coverts and secondaries with rufous margins ; the black feathers of the throat margined with white. The female is similar, but duller in colour, lacks the black on the throat, and has the under parts dull rufous, darkest on the breast.

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Hab. South-western Europe from Portugal to Italy; Morocco and Algeria, migrating south at the approach of winter; has strayed as far north as Heligoland and has once occurred in England, near Bury in Lancashire, 8th of May, 1875.

In general habits it resembles the common Wheatear, but affects more arid and stony localities than that species, and is shy and difficult of approach. It feeds on insects of various kinds and is said to occasionally eat berries. Its nest is loosely constructed of dried grass-bents and lined with hair and is usually placed in a hole in an old wall or rock. The eggs, 4 or 5 in number, are deposited in May and are pale bluish green marked with rusty-red, and in size are rather smaller than those of *S. œnanthe.*

55. Black-throated Wheatear.

SAXICOLA MELANOLEUCA.

Saxicola melanoleuca (Güld.), Nov. Com. Petr. xix. p. 468, pl. 15 (1775); Dresser, ii. p. 211, pls. 26, 25, fig. 1; Seebohm, Cat. B. Br. Mus. v. p. 385; *S. xanthomelæna* et *S. eurymelæna*, Ehr. Symb. Phys. (1828).

♂ *ad.* (Asia Minor). Differs from *S. stapazina* only in the black on the throat less extended, and the white portions of the plumage are much purer white, and it passes through exactly the same stages of plumage as that species.

Hab. South-eastern Europe and western Asia, ranging from Greece through south Russia, the Crimea, Asia Minor, and Persia, as far east as Yarkand, and migrating for the winter to Egypt, Nubia, and Abyssinia.

Does not differ from *S. stapazina* in habits or nidification. Its nest which is usually rather large is constructed of grass-bents and rootlets and is placed in a cleft of a rock, in carefully selected almost inaccessible places, and its 4 or 5 eggs resemble those of *S. stapazina*, but are as a rule somewhat brighter in colour and more richly marked.

56. Black-eared Wheatear.

SAXICOLA ALBICOLLIS.

Saxicola albicollis (Vieill.), Nouv. Dict. xxi. p. 424 (1818); *S. aurita* Temm. Man. d'Orn. i. p. 241 (1820); Gould, B. of E. ii. pl. 92; Seebohm, Cat. B. Br. Mus. v. p. 394; *S. stapazina*, Dresser, ii. p. 203, pl. 23; *S. rufescens*, Savi, Orn. Tosc. i. p. 223 (1827); Naumann, xiii. p. 134, Taf. 376.

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Traquet oreillard, French; *Caiada*, Portug.; *Sacristan* Span.; *Monachella*, Ital.

♂ *ad.* (Asia Minor). A narrow frontal line, lores, and a large patch extending to beyond the ear-coverts, wings and wing-coverts deep black; tail as in *S œnanthe*; rest of plumage, including the throat, white; the breast and back slightly washed with rufous; bill and legs black; iris brown. Culmen 0·62, wing 3·5, tail 2·65, tarsus 1·0 inch. The female has the dark portions of the plumage brownish black, the crown, nape, and back brownish grey. In the winter the white portions of the plumage are washed with rufescent isabelline.

Hab.. S. Europe, Asia Minor, Palestine, Persia; Morocco, Algeria, Egypt, and Arabia, migrating further south in winter.

Does not differ in habits from *S. stapazina*. Its nest is constructed of grass-bents lined with hair and is usually placed on the ground. The eggs 4 to 5 in number are pale bluish with a zone of brown spots at the larger end and are usually deposited in May. Mr. Whitaker (Ibis, 1898, p. 625) separates under the name of *S. catarinæ* the western from the eastern bird, but it seems to me, without valid reason.

57. Arabian Wheatear.

SAXICOLA FINSCHI.

Saxicola finschi, Heugl. Orn. N. O. Afr. i. p. 350 (1869); Seebohm, Cat. B. Br. Mus. v. p. 388; *S. erythræa*, Dresser, ii. p. 219 (partim) pl. 28.

♂ *ad.* (Asia Minor). Sides of the head and neck, throat, upper breast, wings, and scapulars deep black; rest of plumage pure white; tail as in *S. œnanthe*; bill and legs black; iris dark brown. Culmen 0·7, wing 3·4, tail 2·35, tarsus 1·05 inch. The adult female has the crown, nape, back and chin sandy grey, the throat black marked with dull grey; wings dark brown and the breast and abdomen dull white. The young male is like the female but has more white on the upper parts, and the throat and underparts are as in the adult males but rather duller, and the young female resembles the adult but is paler and duller above and lacks the black on the throat.

Hab. Egypt, Arabia, Syria, Palestine, Asia Minor, the Transcaspian district, and probably as far east as Persia; winters in Nubia.

In general habits it does not differ from its allies. It breeds in April, and places its nest, which is flat and untidy, constructed of fine grass straws and lined with a few feathers, in

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a chink in the rocks; its eggs are pale bluish white, rather round in shape, but when fresh and unblown have a warm pink hue. In size they measure about 0·79 by 0·61.

58. Subsp. Saxicola barnesi.

Saxicola barnesi, Oates, F. Brit. Ind. Birds, ii. p. 75 (1890).

♂ *ad.* (Persia). Differs from *S. finschi*, only in having the chin and throat alone black, and these separated from the axillaries by a broad white band.

Hab. Baluchistan, Afghanistan, and Persia.

Does not differ in habits from *S. finschi*. Its nest and eggs are as yet unknown but will probably prove to be similar to those of that species.

59. Desert Wheatear.

SAXICOLA DESERTI.

Saxicola deserti, Rüpp. in Temm. Pl. Col. pl. 359, fig. 2 (1825); Dresser, ii. p. 215, pl. 27; Seebohm, Cat. B. Br. Mus. v. p. 383; Oates, F. Brit Ind. Birds, ii. p. 78; Saunders, p. 25; Lilford, iii. p. 28, pl. 14; *S. atrogularis*, Blyth, Journ. As. Soc. Beng. xvi. p. 130 (1847); Gould, B. of Asia, iv. pl. 31.

Naïsch, Arabic.

♂ *ad.* (Algeria) Crown nape, back scapulars and larger wing-coverts sandy isabelline; forehead, superciliary line rump, upper tail-coverts, under wing-coverts, breast and abdomen white; wings black, the feathers margined with isabelline and white; tail black with the extreme base white; sides of head and neck and entire throat glossy black; flanks and breast washed with sandy isabelline; bill and legs black; iris brown. Culmen 0·75, wing 3·5, tail 2·6, tarsus 1·0 inch. The adult female has the upper parts greyer and duller, the rump washed with isabelline; the wings brown and the throat and under parts sandy isabelline. In the winter the male has the upper parts greyer, and the black on the throat is obscured by creamy white margins to the feathers. Young birds have pale centres to the feathers on the upper and under parts, except on the rump and abdomen and the wing and tail-feathers are tipped with buff. This species is always recognizable in having very little white at the base of the tail.

Hab. North Africa from Algeria to Egypt; Arabia, Palestine, Asia Minor, Turkestan, and Western Tibet, wintering in the plains of India and in Africa south to Abyssinia; has occurred three times on Heligoland, once in Scotland and once in England.

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In its habits it is lively and by no means shy, and is essentially a desert bird. Its song is simple and short, but pleasant. Its nest, which is placed on the ground under stones, or in a hole, is somewhat large and loosely constructed of grass-bents and plant-stems, and lined with wool, hair, and feathers; the eggs, 3 to 6 in number, are deposited in April or May, and are pale blue green finely spotted with reddish brown and pale violet, and measure about 0·78 by 0·59.

60. Subsp. Saxicola montana.

Saxicola montana, Gould, B. of Asia, iv. pl. 30 (1865); Seebohm, Cat. B. Br. Mus. v. p. 384; Oates, F. Brit. Ind. Birds, ii. p. 78.

♂ *ad.* (E. Turkestan). Differs from *S. deserti*, in having the inner web of the quills pure white quite up to the shaft, and in being a trifle larger in size. Culmen 0·74, wing 4·0, tail 2·75, tarsus 1·1 inch.

Hab. Eastern Turkestan, Tibet; in winter Kashmir, Afghanistan, Baluchistan, and the island of Socotra.

Does not differ from *S. deserti* in general habits and nidification, being in fact merely an eastern form of that species.

61. Red-rumped Wheatear.

SAXICOLA XANTHOPRYMNA.

Saxicola xanthoprymna, Ehr. Symb. Phys. fol. *d.d.* (1828); Dresser, ii. p. 229, pls. 31, 32, fig. 1; Seebohm, Cat. B. Br. Mus. v. p. 381; *S. erythropygia*, Taylor, Ibis. 1867; *S. mœsta*, Dresser (nec. Licht.), ii. p. 227.

♂ *ad.* (Nubia). Upper parts brownish grey; frontal and superciliary lines white; wings dull brown the feathers lighter margined; lower back, upper and under tail-coverts rufous; tail as in *S. œnanthe*; throat, sides of head, and neck jet black; under parts whitish, the flanks washed with rufous; under wing-coverts black; bill and legs black; iris brown. Culmen 0·6, wing 3·7, tail 2·7, tarsus 0·95 inch. In the female the upper parts are smoky brown, the rufous parts of the plumage orange rufous; cheeks and throat dull white, the bases of the feathers blackish.

This one of the rarest of the Wheatears is only known to inhabit Egypt and Nubia, where it is probably resident, and absolutely nothing is known of its habits or nidification, indeed only very few specimens are known to have been obtained up to the present time.

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62. Subsp. Saxicola cummingi.

Saxicola cummingi, Whitaker, Bull. Brit. Orn. Club. No.lxvi. (1899); id. Ibis, (1902), p. 59, pl. iii.

Ad. Differs from *S. xanthoprymna* in having the basal part of the tail-feathers rusty-red like the upper tail-coverts, instead of white. From *S. mœsta* it differs in having the top of the head and nape brownish grey like the back, the rump and upper tail-coverts rusty, and the rufous on the outer tail-feathers extending to within 0·7 of the extremity. Culmen 0·78, wing 3·7, tail 2·45, tarsus 0·95 inch.

Hab. Fao, Persian Gulf.

Nothing is as yet known respecting the habits or nidification of this bird, and indeed, only one specimen, now in the British Museum, is known.

63. Isabelline Wheatear.

SAXICOLA ISABELLINA.

Saxicola isabellina, Rüpp. Atlas. p. 52, pl. 34, fig. 6, (1826). Dresser, ii. p. 199, pl. 22; Seebohm, Cat. B. Br. Mus. v. p. 399; Oates, F. Brit. Ind. Birds, ii. p. 76; Tacz. F. O. Sib., O. p. 349; Saunders, p. 21; Lilford, iii. p. 24, pl. 12; *S. saltatrix*, Keys and Blas, Wirbelth, Eur. p. 192 (1840).

Conek, Russian.

♂ *ad.* (Egypt). Upper parts greyish isabelline; lower rump and upper tail-coverts white; superciliary line white; lores black; ear-coverts brown; wings brown, the secondaries with pale margins, tail as in *S. œnanthe* but with more black; under parts pale isabelline, chin nearly white, the breast darker; under wing-coverts and axillaries white; bill and legs black; iris brown. Culmen 0·6, wing 3·95, tail 2·45, tarsus 1·18 inch. The female differs merely in having the black on the lores duller. The nestling has the plumage indistinctly barred, and the wings and tail margined and tipped with rufous. In the winter the adult has the wing- and tail-feathers broadly margined with sandy brown. This species somewhat resembles the female of *S. œnanthe*, but can always be distinguished by its white under wing-coverts and axillaries.

Hab. Resident in Egypt, Nubia and Abyssinia; Arabia, Palestine, the Caucasus and South Russia (where it migrates south for the winter); is resident in Persia, and is a summer resident in Turkestan, Afghanistan, Mongolia, Tibet, north China and south-eastern Siberia, wintering in the plains of

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India from the Punjab south to Ahmednagar, and east to Chunar and Benares. It has once occurred in Great Britain but has not been otherwise recorded from western Europe.

In general habits this Wheatear does not differ from *S. œnanthe*. It frequents barren ground, pastures, bush-covered localities, and even sometimes fir-woods, and like its congeners feeds on insects of various kinds. Its nest is placed in a hole in the ground, usually in the deserted hole of some rodent, and is bulky, constructed of grass and dried herbs. The eggs from 4 to 6 in number are deposited from February to May, according to latitude, and resemble those of *S. œnanthe*, but are rather larger, measuring 0·82 by 0·65. Its song is powerful and rich in tone, and it has a peculiar note resembling that of a Sandpiper.

64. Mourning Wheatear.

SAXICOLA MŒSTA.

Saxicola mœsta, Licht. Verz. Doubl. p. 33 (1823); Dresser, ii. p. 229, pl. 32, figs. 2 (1874); Seebohm, Cat. B. Br. Mus. v. p. 382; Koenig. J. f. O. 1893, p. 16, Tab. 1; *S. philothamna*, Tristram, Ibis, 1859, p. 58, pl. 9; Dresser, ii. p. 223, pl. 30.

♂ *ad.* (Algeria). Crown dull greyish white; nape white; back black; rump and upper tail-coverts reddish white; wings dull brown, the quills with paler margins; outer tail-feathers bright rufous at the base, otherwise blackish brown, the middle tail-feathers greyish brown; throat, sides of head and neck jet black; breast and abdomen white; under tail-coverts pale rufous; bill and legs black; iris brown. Culmen 0·8, wing 3·8, tail 2·9, tarsus 1·2 inch. The adult female has the upper parts sandy isabelline, the back darker and the under parts including the throat, buffy white. The young bird has the crown and nape greyish brown, the back darker, rump white, tinged with rufous, quills and wing-coverts broadly margined with rusty ochreous; tail narrowly tipped with ochreous; chin, lores, and sides of face black, the lower chin and throat white; rest of under parts white, washed with rufous, and with indistinct cross bars.

Hab. Algeria, Tunis, Egypt, Arabia, and Palestine, where it is resident, but nowhere common.

In its habits it is somewhat peculiar as it frequents exclusively open, scrubby, and not bare districts, and perches on bushes like a Whinchat. It builds its nest in a hole under a bush or root, having two entrances and deposits very early in the season, often early in January, its rather large eggs, which measure 24 by 18 millimetres (0·94 by 0·71 inches) and are delicate bluish white, sprinkled all over with minute reddish spots.

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65. Red-Tailed Wheatear.

SAXICOLA CHRYSOPYGIA.

Saxicola chrysopygia, (De Filippi), Ann. Zool. Genov. ii. p. 381 (1863); Dresser, ix. p. 31, pl. 638, fig. 1; Blanf. E. Pers. ii. p. 151, pl. x. fig. 1; Seebohm, Cat. B. Br. Mus. v. p. 389; *S. kingi*, Hume, Ibis, 1871, p. 29.

Ad. (Persia). Upper parts hair brown, the lores and ear-coverts darker; rump and upper tail-coverts rufous buff; wings brown, the secondaries margined and tipped with greyish buff; tail chestnut red, with a broad subterminal black band; under parts greyish white, the breast and flanks washed with pale brown, the under tail-coverts with dull chestnut; bill and legs black; iris brown. Culmen 0·75, wing 3·7, tail 2·75, tarsus 1·0 inch. Sexes similar.

Hab. Persia, wintering in Baluchistan, Sind, and the plains of N.W. India.

Inhabits rocky desolate localities and does not differ in habits from its allies. Mr. Zarudny found its nest on the 25th May 1892 in Transcaspia, and has sent me one egg which is white with a bluish tinge, very finely dotted at the larger end with pale red, and measures 0·77 by 0·65.

PRATINCOLA, Koch, 1816.

66. Whinchat.

PRATINCOLA RUBETRA.

Pratincola rubetra, (Linn.) Syst. Nat. i. p. 332 (1766); Naum. iii. p. 903, Taf. 89, figs. 3, 4 (1823); Hewitson, i. p. 108, pl. 30, fig. 2; Newton, i. p. 344; Dresser, ii. p. 255, pls. 37, 38; Sharpe, Cat. B. Br. Mus. iv. p. 179; Saunders, p. 27; Lilford, iii. p. 20, pl. 10.

Tarier, French; *Cartaxo*, Portug.; *Tarabilla grande*, Span.; *Stiaccino*, Ital.; *Wiesenschmätzer*, German; *Paapje*, Dutch; *Brunstrubet Digesmutte*, Dan.; *Buskskvætte*, Norweg.; *Buskskvätta*, Swed.; *Pensatasku*, Finn.; *Tschekkan lugovoi*, Russ.

♂ *ad.* (England). Upper parts blackish brown, the feathers margined with rufescent ochre; rump more rufescent; upper tail-coverts yellowish white, with a median blackish spot near the tip; wings dark brown, with a double white patch; superciliary stripe, chin, and sides of the throat white; sides of the face and neck blackish brown, under parts pale rufous, except the abdomen, which is dull white; central tail-feathers and terminal portion of remaining feathers blackish brown, the basal portion white; bill and legs black; iris brown. Culmen 0·58, wing 2·9, tail 1·95,

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tarsus 0·92 inch. The female is duller in colour, the superciliary stripe is yellowish white, the alar patch smaller, the under parts are yellowish white, the flanks washed with rufous, and the breast slightly spotted. The young resemble the female, but have broader margins to the feathers, and the breast is more spotted.

Hab. Europe generally, ranging as far east as Persia, migrating in winter to North Africa, Senegambia, and the Gold Coast. In N.W. India it is replaced by an allied species, *P. macrorhyncha* Stoliczka.

Frequents open country, commons, heaths and pastures, and is active and restless, flitting from bush to bush. Its call note is sharp and short, and from it the name of 'chat' is derived. Its song is short but agreeable, and is uttered when the bird is perched on a twig, or when fluttering in the air. Its nest which is constructed of fine grass-bents, moss, and roots, and lined with finer bents or hair, is placed amongst bushes or grass carefully concealed, and the eggs from 4 to 6 or even 7 in number are dull bluish green with indistinct reddish-brown spots, and measure 0·7 by 0·55. Its food consists of small coleoptera, insects of various kinds, worms, caterpillars, small mollusks, and even occasionally berries.

67. Canarian Chat.

PRATINCOLA DACOTIÆ.

Pratincola dacotiæ, Meade, Waldo, Ibis, 1889, p. 504, pl. xv.; Dresser, ix. p. 37, pl. 640 (1895).

♂ *ad.* Upper parts blackish brown, the feathers with lighter margins, crown and nape darker; lores and sides of head black; superciliary stripe white; wings and tail brown, with whitish margins; alar patch white; under parts white, with a pale rusty-red patch on the breast; bill and legs black; iris brown. Culmen 0·62, wing 2·5, tail 2·3, tarsus 0·9 inch. The female is paler and duller, especially on the head, and the rufous patch on the breast is nearly obsolete.

Hab. The island of Fuerteventura (Canaries) but it may possibly occur on the opposite unexplored coast of Africa.

Frequents small barrancos on the mountain slopes where there are bushes. It is an early breeder, the young being fledged by the middle of February, and its nest is placed on the ground under stones or a rock. Mr. Meade Waldo was too late for the eggs, but received eggs said to be those of this species which he says resembled intensely bright coloured eggs of *P. rubicola*.

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68. Hodgson's Bush Chat.

PRATINCOLA INSIGNIS.

Pratincola insignis, Hodgs. in Gray's Zool. Misc. p. 83 (1844); Sharpe, Cat. B. Br. Mus. iv. p. 183; Pleske, Prjevalsky's Reisen. ii. p. 43, pl. i. figs. 1, 2; Oates, F. Brit. Ind. Birds, ii. p. 64.

♂ *ad.* (Nepal). Crown, sides of the head, hind-neck and back black; upper tail-coverts pure white; wings black, with a large white patch; tail white at the extreme base, otherwise black; chin, throat, and sides of the neck pure white; fore neck and breast orange chestnut; flanks white, washed with orange chestnut; abdomen and under tail-coverts buffy white; bill and legs black; iris brown. Culmen 0·55, wing 3·55, tail 2·5, tarsus 1·1 inch. The female has the upper parts, tail and wings brown, with fulvous margins; sides of the head and neck dull fulvous; ear-coverts rufescent, under parts rusty brown, darker on the breast.

Hab. Nov-Saissan and Alaschan; the plains of Northern India from Cawnpore to the Bhutan Doars; Nepal.

Frequents flat open localities thickly covered with cane-fields. Nothing appears to be known respecting its nidification.

69. Stonechat.

PRATINCOLA RUBICOLA.

Pratincola rubicola, (Linn.) Syst. Nat. i. p. 332 (1766); Naumann, iii. p. 884, Taf. 90, figs. 3, 4, 5; Hewitson, i. p. 107, pl. xxx. fig. 1; Newton, i. p. 339); Sharpe, Cat. B. Br. Mus. iv. p. 185; Dresser, ii. p. 263, pls. 39, 40; Saunders, p. 29; Lilford, iii. p. 18. pl. 9.

Tarier rubicole, French; *Chasco*, Portug.; *Tarabilla*, Span.; *Saltimpalo*, Ital.; *Schwarzkehliger-Steinschmätzer*, German; *Roodborst-Tapuit*, Dutch; *Sortstrubet-Digesmutte*, Dan.; *Svarthakad-Buskskvätta*, Swed.; *Tschekkan tschernochvostyi*, Russ.

♂ *ad.* (England). Head, throat, nape and back black; tail-coverts white, spotted with blackish brown; wing and tail dark brown, a conspicuous white patch on the former; sides of neck white; under parts light rufous, darker on the breast, lighter on the abdomen; bill and legs black; iris brown. Culmen 0·55, wing 2·55, tail 2·0, tarsus 0·85 inch. The female has the throat merely mottled with black, the upper parts blackish brown, striped with reddish brown; sides of neck rufous white;

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alar patch small, and the under parts more yellowish. The young bird is blackish brown above, striated with dull ochreous, upper tail-coverts rufous; wings and tail feathers margined with rufous buff; under parts ochreous indistinctly striped.

Hab. Europe from southern Sweden, where it is a mere straggler, down to the Mediterranean, and east to the valley of the Volga. In winter, Africa as far south as Senegal.

Frequents the same localities as the Whinchat, but as a rule seldom damp places, and its food is the same as that species'. Its call note is a sharp *täk, täk*, and its song though short is agreeable. Its nest which is constructed of dry grass and moss, lined with hair, feathers, and occasionally wool, is placed on the ground, usually under a bush, and well concealed. The eggs 4 to 6 in number are pale greenish blue spotted, chiefly at the larger end, with reddish brown, and are usually deposited in April or May. Two broods are usually raised in the season.

70. Indian Stonechat.

PRATINCOLA MAURA.

Pratincola maura (Pall.) Reis. Russ. Reichs. ii. p. 708, (1773); Sharpe, Cat. B. Br. Mus. iv. p. 188; Oates, F. Brit. Ind. Birds, ii. p. 61; *P. indica*, Blyth, J. A. S. B. xvi. p. 129; Gould B. of Asia. iv. pl. 34.

♂ *ad.* Differs from *P. rubicola* in having the tail-coverts pure white unspotted, the under wing-coverts and axillaries much blacker and in being somewhat smaller in size. Culmen 0·52, wing 2·65, tail 1·97, tarsus 0·8 inch.

Hab. The extreme east of Europe; and Asia as far east as Japan, north to the Yenesei valley, wintering throughout the Indian peninsula south to Mysore.

In general habits and nidification it does not differ from *P. rubicola*.

71. Subsp. Pratincola prjevalskii.

Pratincola prjevalskii, Pleske, Prjevalsky's Reisen, Vögel, p. 47, Taf. iv. fig. 1, 2, 3, (1889); *P. robusta*, Tristr. Ibis, 1870, p. 497, (partim).

♂. *ad.* Differs from *P. maura* in being larger, having a longer tail, the white patch on the neck smaller, the rusty-red on the breast deeper in colour and more extended, covering almost the entire abdomen. Culmen 0·6, wing 2·82, tail 2·2, tarsus 0·95 inch. The female is more rufous in colouration than *P. maura*.

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Hab. Eastern Turkestan, Kansu, along the Himalayas on the one side and the Chotan-tagh to Gilgit on the other, wintering in Northern India.

This is the form hitherto known under the name of *P. robusta*, but as shewn by Mr. Hume (Str. Feath. 1881, p. 320) Dr. Tristram's name will not stand, and it has therefore been renamed by Mr. Pleske. In habits it does not apparently differ from *P. maura* but nothing is known of its breeding habits.

72. White-tailed Stonechat.

PRATINCOLA HEMPRICHI.

Pratincola hemprichi, (Ehr.) Symb. Phys. Aves. fol. *a. a.* (1828); Dresser, ii. p. 273; Sharpe, Cat. B. Br. Mus. iv. p. 193.

♂ *ad.* (Abyssinia). Resembles *P. rubicola*, but is paler and has the middle tail-feathers white at the base and the rest white on the basal third. Culmen 0·45, wing, 2·85, tail 2·0, tarsus 0·85 inch. The female resembles *P. rubicola* but is paler and has the base of the tail buffy white.

Hab. South-eastern Europe as far north as the Ural; Turkestan, Persia, (according to De Filippi); and north-east Africa where it is said to be resident as far south as Abyssinia and Bogos-Land.

In general habits it is said not to differ from *P. rubicola*, but its nest and eggs do not appear to be known.

73. Pied Stonechat.

PRATINCOLA CAPRATA.

Pratincola caprata, (Linn.) Syst. Nat. i. p. 335 (1766); Sharpe, Cat. B. Br. Mus. iv. p. 195; Oates, F. Brit. Ind. Birds, ii. p. 59; Dresser, ix. p. 33, pl. 641.

♂ *ad.* (Kashmir). Lower rump, upper and under tail-coverts, lower abdomen, and an alar patch white; rest of plumage bill and legs deep black; iris brown. Culmen 0·5, wing 2·75, tail 2·1, tarsus 0·82 inch. The female has the upper parts dark greyish brown indistinctly darker striped; rump and upper tail-coverts dark rust-red; under parts wood-brown very indistinctly streaked; abdomen and under tail-coverts rusty-buff. In the autumn the male has the black feathers more or less margined with rusty-brown. The young birds are fulvous brown mottled with dusky; in the young male the white alar patch is present from the earliest period.

Hab. Transcaspia, Afghanistan, Persia, and India as far east as Burma, and in winter ranges as far south as the Philippines and Java.

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In its habits it resembles its congeners and affects bush-covered localities, gardens, and orchards. Its nest is frequently shapeless, composed of soft grass, fine rootlets, &c., and lined with the same material or hair, and is placed in a hole in the ground or occasionally on the ground under a tuft of grass or a dense bush; the eggs, 3 to 5 but usually 4 in number are deposited from March to June and are pale bluish green marked with brownish red, and measure about 0·67 by 0·55. Its song is clear and good, and is said to be superior to that of *P. maura*.

74. Moussier's Stonechat.

PRATINCOLA MOUSSIERI.

Pratincola moussieri (Olphe. Galliard.), Ann. Soc. d'Agricult. &c., Lyon, iv. pl. xi. (1852); (Dresser), ii. p. 301, pl. 45; (Sharpe), Cat. B. Br. Mus. vii. p. 20; Koenig. J. f. O. 1895 p. 304.

♂ *ad* (Algeria). Crown, sides of head, back and wings black; a white line across the forehead and over the eye to the nape; alar patch white; rump, upper tail-coverts and lateral tail-feathers orange chestnut; central rectrices brown; under parts pale chestnut, bill and legs black; iris brown. Culmen 0·52, wing 2·6, tail 2·0, tarsus 1·0 inch. The female has the upper parts greyish brown, the under parts dull greyish orange, the tail duller in colour.

Hab. Morocco, Algeria, and Tunis, but it is doubtful if, as has been stated, it has occurred in southern Spain.

In its general habits it resembles the common Stonechat and its flight is similar but rather slower and like that bird it affects bush-covered localities. Its nest, which is constructed of grass-bents and lined with hair and feathers, is placed on the ground under a bush, and the eggs, 4 to 5 in number, which are deposited in April or May, are delicate bluish or greenish white, occasionally pure white, and measure 0·7 by 0·55.

RUTICILLA, C. L. Brehm, 1828.

75. Redstart.

RUTICILLA PHŒNICURUS.

Ruticilla phœnicurus (Linn.), Syst. Nat. i. p. 335 (1766); (Naumann), iii. p. 510, Taf. 79, figs. 1, 2; Gould, B. of Gt. Brit. ii. pl. 51; Newton, i. p. 329; Dresser, ii. p. 227, pl. 41; Seebohm, Cat. B. Br. Mus. v. p. 336; Saunders, p. 31; Lilford, iii. p. 14, pl. 7; *Phœnicura ruticilla*, Gould, B. of E. ii. pl. 95; Hewitson, i. p. 104, pl. xxix. fig. 2.

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Rouge-queue, French; *Rabirruiva*, Portug.; *Culirojo*, Span.; *Codirosso, Cudarusso*, Ital.; *Rothschwanz*, German; *Roodstaartje*, Dutch; *Blodstjert*, Dan.; *Rödstjärt*, Norweg. and Swed.; *Leppälintu*, Finn.; *Sarnitchka*, Russ.

♂ *ad.* (England). Upper parts generally slate-grey; tail and upper tail-coverts chestnut red, the middle rectrices brownish, wings brownish, the quills with paler margins; forehead white, frontal line, lores, cheeks, ear-coverts and throat deep black, under parts white, the breast flanks under wing-coverts and axillaries rich or orange red or chestnut; bill and legs black; iris brown. Culmen 0·6, wing 3·1, tail 2·5, tarsus 0·9 inch. Female; upper parts brownish grey; rump and tail duller than in the male; no white frontal patch; chin and throat greyish white tinged with rufous; under parts paler and duller than in the male. The nestling is dull ochreous barred with blackish brown; tail duller than in the adult and slightly barred; under parts sandy yellow marked with blackish brown. In the winter the male has the upper parts obscured with brown, the black and white on the head and neck with brown margins and the orange red on the under parts with whitish margins to the feathers, but the female differs but little in winter dress.

Hab. Europe generally, north to the Arctic circle, south to the Mediterranean; Asia east to the Yenesei and the Lena; winters in southern Persia and Central Africa.

Frequents groves and gardens, and is active and sprightly in its general habits, but somewhat shy and suspicious; is continually on the move, and keeps its tail in almost continual motion. Its call note is a clear whistle, sometimes followed by one or two short, sharp notes, and its song, which is uttered when the bird is perched on a twig or occasionally when on the wing, is sweet, rather melancholy, but feeble and consists of only three strophes. It feeds on insects of various kinds, which it either collects from the foliage of trees or from the ground, and catches flies on the wing with great facility.

It breeds throughout its summer range in April or May, its nest being usually placed in a hollow tree or a hole in a wall, and somewhat loosely constructed of roots, dry grass-bents, and moss, and lined with hair or feathers.

The eggs from 5 to 8 in number are clear greenish-blue, usually unspotted, but occasionally with a few faint reddish dots, and measure from 0·70 by 0·57 to 0·78 by 0·58 inch.

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76. Ehrenberg's Redstart.

RUTICILLA MESOLEUCA.

Ruticilla mesoleuca, Ehr. Symb. Phys. Aves. fol. *e e* (1829); Dresser, ii. p. 285, pl. 42; Seebohm, Cat. B. Br. Mus. v. p. 338.

♂ *ad.* (Taurus). Differs from the Common Redstart in having a conspicuous white alar patch; the upper parts are darker, and the under parts of a deeper orange red. Culmen 0·5, wing 3·1, tail 2·45, tarsus 0·82 inch. The female resembles that of *R. phœnicurus*, but is darker and greyer in tinge of colour.

Hab. Asia Minor, the Caucasus, and North Africa, wintering in Arabia, Abyssinia, and Senegal; has on several occasions been obtained in Europe proper.

In general habits it assimilates more closely with *R. titys* than with *R. phœnicurus*, but is much shyer than either of these. Its nest which it places in a hollow tree is loosely constructed of strips of the inner bark of the juniper and hair or wool, and lined with hair and feathers; the eggs from 3 to 6 in number closely resemble those of *R. phœnicurus*.

77. Indian Redstart.

RUTICILLA RUFIVENTRIS.

Ruticilla rufiventris, Vieill. Nouv. Dict. xxi. p. 431 (1818); Dresser, ii. p. 289, pl. 43; Seebohm, Cat. B. Br. Mus. v. p. 342; Oates. F. Brit. Ind. Birds, ii. p. 95, *R. indica*, Blyth, Cat. B. Mus. As. Soc. p. 168 (1849), *R. phœnicuroides* and *nipalensis*; Moore, P. Z. S. 1854, pp. 25, 26, pl. lvii.

Thir-thira, *Thirtir-kampa*, Hindu; *Phir-ira*, *Lal-girdi*, Beng.; *Nuni-budi-gadu*, Tel.

♂ *ad.* (Lebanon). Differs from *R. phœnicurus* in having the upper parts blackish grey, the black line on the forehead broader, the white patch scarcely visible and frequently wanting, the black on the throat extending to the breast, the under parts chestnut red, paler on the centre of the abdomen. Culmen 0·58, wing 3·15, tail 2·7, tarsus 0·95 inch. The female is much darker than that of *R. phœnicurus*, and the under tail-coverts more rufous. In the winter both sexes have the feathers tipped with brown, as in *R phœnicurus*.

Hab. Turkestan, Persia, Afghanistan, the higher parts of the Himalayas and Mongolia, ranging east to China, and winters in India from the Himalayas to Bangalore and the Nilgiris, and from Sind to Assam and Manipur.

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In habits it resembles *R. phœnicurus* except that it affects rocky and mountainous localities. But little is known of its breeding habits except that it nests in hollow trees or in rocks, and its eggs resemble those of *R. phœnicurus*, but are rather larger and paler. The nest is loosely constructed of dried grasses and lined with wool, hair, and feathers.

78. Subsp. Ruticilla semirufa.

Ruticilla semirufa (Ehr.), Symb. Phys. Aves. fol. *b b* (1829); Seebohm Cat. B. Br. Mus. v. p. 344.

The present sub-species is barely separable from *R. rufiventris*, of which it is merely a western form differing in being a trifle smaller in size and in having the under wing-coverts marked with black. Culmen in ♂ 0·52 to 0·6, wing 2·9 to 3·1, tail 1·8 to 2·2, tarsus 0·9 to 0·91 inch.

Hab. Palestine and Syria, and has been obtained in Egypt

It nests in the Lebanon and the nest is placed in a cleft in the rocks. The eggs resemble those of *R phœnicurus*, but are of a more delicate and paler blue.

79. Hodgson's Redstart.

RUTICILLA HODGSONI.

Ruticilla hodgsoni, Moore, P. Z. S. 1854, p. 26, pl. lviii.; Seebohm, Cat. B. Br. Mus. v. p. 344; Oates, F. B. Ind. Birds, ii. p. 95.

Thar-capni, Nepal.

♂ *ad.* (India). Differs from *R. phœnicurus* in being larger, in having the upper parts of a deeper slate-grey, shading to white on the forehead, and on the wing there is a small white speculum; on the under parts the black extends further down, and the breast and abdomen are darker chestnut-red. Culmen 0·62, wing 3·4, tail 2·7, tarsus 1·0 inch. The female resembles that of *R. rufiventris*, but is larger. In the winter the male has grey fringes on the feathers of the throat and breast.

Hab. Western China and Central Asia; winters in Nepal, Sikkim, Bhutan, Assam, the Naga Hills, and Manipur.

I find nothing on record respecting its general habits, and its nest and eggs are unknown.

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80. Daurian Redstart.

RUTICILLA AUROREA.

Ruticilla aurorea (Gmel.), Syst. Nat. i. p. 976 (1788); David and Oust. Ois. Chine, p. 170, pl. xxvi.; Temm. and Schlegel, Fauna Jap. Aves. p. 56, pl. xxi. D; Tacz., Journ. f. Orn. 1872, p. 362, 1873, Taf. i. fig. 11 (egg); id. F. O. Sib. O. p. 326; Seebohm, Cat. B. Br. Mus. v. p. 345; Oates, F. Brit. Ind. Birds, ii. p. 93.

♂ *ad.* (Dauria). Crown, nape, and upper back pale grey, with darker margins; throat, sides of head, upper breast, dorsal region, and wings black, the last with a white speculum; central tail-feathers blackish brown; lower back, rump, tail, and under parts chestnut; bill and legs black; iris brown. Culmen 0·6, wing, 2·9, tail 2·5, tarsus 0·9 inch. Female; Rump and tail as in the male; upper parts brown, wings edged with fulvous and with a white speculum; under parts greyish brown, the throat paler; feathers round the eye greyish white. In the winter the feathers are bordered with slaty brown, and the crown and nape in the male are dull slaty grey; the black feathers on the throat have whitish margins. The female is also rather duller in plumage than in the summer.

Hab. Eastern and south-eastern Siberia, Mongolia, Northern China, and Japan in elevated districts; wintering in the plains of Japan, South China, Formosa, and Hainan, Assam, Bhutan, the Khasi Hills, Cachar, Sylhet, the Naga Hills, Manipur, and Thayetmyo, and occurring as far south as the Malay Peninsula, Java, and Timor.

Frequents bush-covered localities, especially near water, fields and gardens even those in the towns, and in general habits resembles *R. phœnicurus*, and is by no means shy. Its call note is *kekekeke* quickly uttered and its song is strong and fairly good. It breeds in May; its nest, which is constructed of moss, dried grass, and bark, and lined with hair and feathers, is placed in a hollow tree, the cleft of a rock, or amongst stones and from 5 to 7 eggs are deposited. These belong to two different forms, being either white finely spotted with red or brownish red in colouration resembling those of the Robin, or else pale blue like those of *Saxicola œnanthe*, or deep greenish blue like those of *Ruticilla phœnicurus*, finely spotted with rusty red, and in size are about similar to those of *R. phœnicurus*.

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81. Güldenstadt's Redstart.

RUTICILLA ERYTHROGASTRA.

Ruticilla erythrogastra (Güld.), Nov. Com. Petrop. xix. p. 469, pls. 16, 17 (1775); Gould, B. of Asia, i. pl. 49; Dresser, ii. p. 305, pl. 46; Seebohm, Cat. B. Br. Mus. v. p. 347; Tacz. F. O. Sib. O. p. 329; Oates, F. Brit. Ind. Birds, ii. p. 97.

♂ *ad.* (Caucasus). Crown and nape white tinged with silvery grey; frontal band, sides of head, throat, neck, upper breast, back, and wings black, the last with a large white alar patch; rump, tail, lower breast and under parts deep chestnut, the middle rectrices brownish; legs and beak black; iris brown. Culmen 0·55, wing 4·1, tail 3·15, tarsus 1·0 inch. The female is brownish ash, darker on the upper parts, and paler on the abdomen; tail and rump paler than in the male; no white alar patch. In the winter-dress the white feathers on the crown and nape of the male have grey margins, and the plumage in both sexes is duller. The young resemble the female but are mottled, the feathers having obscure pale centres, and the young male has a whitish alar patch.

Hab. The mountain ranges of the Caucasus, Turkestan, the Himalayas, from Kashmir and Gilgit to Sikkim, the Onon, Dauria, Mongolia, Tibet, and Northern China, descending to lower altitudes and the plains in winter.

In its habits it differs somewhat from the other Redstarts and affects lakes, mountain streams, and rocky hillsides. Prjevalsky found it breeding in the Nan-Schan mountains in Mongolia, at an altitude of 12,000 feet, but gives no description of its nest and eggs. Eastern birds have as a rule the tail paler rufous and the crown whiter, and have therefore been separated under the name *R. grandis*, (Gould, P.Z.S. 1849, p. 112.)

82. Eversmann's Redstart.

RUTICILLA ERYTHRONOTA.

Ruticilla erythronota (Eversm.), Add. Pall. Zoogr. Ross. As. fasc. ii. p. 11 (1841); Dresser, ix. p. 43, pl. 643; Seebohm, Cat. B. Br. Mus. v. p. 348; Tacz. F. O. Sib. O. p. 331; Oates, F. Brit. Ind. Birds, ii. p. 94; *R. rufigularis*, Moore, P.Z.S. 1854, p. 27, pl. lix.

♂ *ad.* (Afghanistan). Crown and nape slate-grey; frontal line lores, sides of neck, head, and ear-coverts black; wings blackish externally margined with grey, and with a broad band and a small patch white; back, rump, tail, chin, throat, and under parts chestnut red, the middle

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tail-feathers blackish brown; middle of abdomen whitish. Culmen 0·55, wing 3·5, tail 2·95, tarsus 0·95 inch. The female has the upper parts greyish brown, the upper tail-coverts and tail as in the male; less white on the wings; under parts greyish brown, the middle of abdomen and under tail-coverts whitish. In winter the male has the plumage obscured by buffy white or buffy brown margins to the feathers.

Hab. Asia from the Ural and Transcaspia to Lake Baikal and South-west Mongolia, south to Bushire; winters in Turkestan, Afghanistan, and Kashmir west to Asia Minor.

Frequents wooded and bush-covered localities, and differs but little from its allies in general habits. Breeds in Eastern Siberia, but I do not find any published description of its nest or eggs.

83. Prjevalsky's Redstart.

RUTICILLA ALASCHANICA.

Ruticilla alaschanica, Prjv. Mongol i Strana Tangut, ii. p. 40, Taf. ix. fig. 2 (1876); id. in Rowley's Orn. Misc. ii. p. 175, pl. liv. fig. 2 (1877).

♂ *ad.* (Kansu). Differs from *R. erythronota* in being larger and having as a rule a longer tail; the black on the sides of the head and neck is replaced by dark slate grey and the crown and nape are dark slate grey, darker than in that species. Culmen 0·7, wing 3·55, tail 3·45, tarsus 0·9 inch.

♀ *ad.* Does not differ from *R. erythronota* except in size.

Hab. The Alaschan and southern Koko-nor mountains, and those in the province of Kan-su.

It breeds in the Sjan-si-bei mountains on the upper Chuanche, but its nest and eggs are, so far as I can ascertain, unknown.

84. Black Redstart.

RUTICILLA TITYS.

Ruticilla titys (Scop.), Ann. 1 Hist. Nat. p. 157, No. 233 (1769); (Hewitson), i. p. 105, pl. xxix. fig. 3; Naumann, iii, p. 525, Taf. 79, figs. 3, 4; Gould, B. of E. ii. pl. 96; id. B. of Gt. Brit. ii. pl. 52; Newton, i. p. 333; Dresser, ii. p. 293, pl. 29; Saunders, p. 33; Lilford, iii. p. 16, pl. 8; *R. cairii*, Gerbe. Dict. Univ. d'Hist. Nat. xi. p. 259 (1848).

Rouge-queue des Murailles, French; *Rabirruiva*, Portug.; *Culirojo, Tintorero*, Span.; *Coderosso-spazzacamino*, Ital.; *Haus-*

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röthling, German; *Zwaarte Roodstart*, Dutch; *Sort-Rödstjert*, Dan.; *Svart-Rödstjert*, Swed.

♂ *ad.* (Germany). Crown, nape, and back dark slate-grey; tail and tail-coverts chestnut-red, the central tail feathers dark brown, wings blackish grey; the secondaries with broad white margins; axillaries grey; frontal line, sides of the head and neck, throat, and breast deep black; abdomen slate grey, nearly white in the centre; beak and legs black; iris brown. Culmen 0·6, wing, 3·55, tail 2·8, tarsus 0·95 inch. The female, has the upper parts sooty brownish grey; under parts pale sooty brown, the centre of the abdomen whitish; wings browner than in the male; tail and tail-coverts similar to male. The young bird resembles the female, and the nestling has the plumage indistinctly barred. In the winter the male has the black feathers more or less tipped with grey, but the female does not differ from its summer dress.

Hab. Central and southern Europe, yearly visiting the British Islands mostly in autumn and winter; straying to southern Scandinavia, and Iceland (once); east to the Ural and Asia Minor, south to North Africa and, in winter, as far south as Southern Nubia.

In general habits it does not differ much from *R. phœnicurus*, but frequents houses, and is even found in towns and cities, and it affects rocky localities and ravines in preference to groves. It is tame and familiar in its habits, sometimes almost as much so as the Redbreast; its call note and song resemble those of the Common Redstart. It breeds in central and southern Europe as far north as Holland, and in North Africa, and commences nidification early in May. The nest, which is placed in sheds, holes in walls, under the eaves of an outhouse, or in clefts of the rocks, is constructed of grass, moss, and rootlets, and lined with hair, wool, or feathers, and the eggs usually 4 or 5 in number are pure white, measuring about 0·75 by 0·58, but occasionally, though very rarely, eggs are found which are faintly spotted with brown. *R. cairii* is merely the young plumage of the present species.

85. Gould's Redstart.

RUTICILLA OCHRURA.

Ruticilla ochrura (Gmel.), Reis. Russl. iii. p. 101. pl. 19, fig. 3 (1774); Dresser, ix. p. 39, pl. 642; *R. erythroprocta*, Gould, P.Z.S. 1855, p. 78.

Gorichvostka Gornaya, Russ.

♂ *ad.* (Euphrates Valley). Differs from *R. titys* in having the back, wing-coverts, and axillaries black instead of slate-grey, the black extends further

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down the breast, and the abdomen is chestnut-red instead of grey. Culmen 0·5, wing 3·25, tail 2·5, tarsus 0·85 inch. The female resembles the female of *R. titys* but has the lower abdomen tinged with chestnut-red.

Hab. Asia Minor and the Caucasus, passing south in the winter.

It resembles *R. titys* in its habits except that it does not visit inhabited places so much as that species but frequents rocky mountainous localities. It nests in the mountains, in clefts of rocks or in old towers, its nest being of fine roots and grass-bents, and lined with finer roots and hair, and deposits 4 or 5 eggs, which are white with a very faint blue tinge, but according to M. Lorenz the eggs are deep blue.

86. White-Throated Redstart.

RUTICILLA SCHISTICEPS.

Ruticilla schisticeps (Hodgs.), MS. drawings of B. of Nepal *Passeres*, pl. lxxix., No. 813 ; id. in Gray's, 3 vol. Misc. p. 83 (1844), pl. lxi. ; Prjev. Mongol. i Strana Tangut. ii., tab. xx. fig. 10 (egg) ; Pleake, Prjevalsky's Reisen Vögel, ii., Vögel Taf. v. (egg) ; Seebohm, Cat. B. Br. Mus. v. p. 351 ; Oates, F. Brit. Ind. Birds, ii. p. 92 ; *R. nigrogularis* Moore, P.Z.S. 1854, p. 29.

♂ *ad.* (Sikhim). Crown and nape cobalt, rather duller on the nape ; a narrow frontal line, sides of the head and neck, throat, back, and scapulars black ; the longer scapulars broadly tipped with chestnut ; tail black ; all but the middle feathers with concealed chestnut bases ; wings black ; the larger wing-coverts and outer margins of the inner secondaries white ; a well defined white patch on the throat ; rump, tail-coverts, and under parts below the throat rich dark chestnut ; the centre of the abdomen whitish ; bill and legs black ; iris brown. Culmen 0·52, wings 3·5, tail 2·9, tarsus 0·9 inch. Female ; crown nape, back, and upper rump rich brown ; lower rump, tail-coverts, and basal half of tail, except the middle feathers, chestnut-red ; rest of tail bark brown ; wings dark brown, with less white than in the male ; underparts warm brownish ash-grey, whitish on the centre of the abdomen ; a large white patch on the throat. In the autumn the black portions of the plumage and the crown in the male are margined with fulvous.

Hab. The mountains of Nepal and Sikhim, Tibet, Mongolia, and North West China.

It frequents bush-covered localities in the mountains, and forests, both pine and deciduous. It breeds in the province of

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Kansu and in the mountains above the tributaries of the upper Chuanche river and places its nest, which is constructed of moss and lined with hair and feathers, in a cleft in the rocks, and in May deposits 4 eggs which are pale pink with a polished shell surface and are faintly dotted with brown. In size they measure 19·5 to 20 by 14·5 to 15·5 millimetres.

87. Blue-Headed Redstart.

RUTICILLA CÆRULOCEPHALA.

Ruticilla cærulocephala (Vigors), F.Z.S. 1830, p. 35 ; (Gould) Cent. B. Himal. M. pl. xxv., fig. 2 ; Hume and Henderson, Lahore to Yark., p. 211, pl. xiv. ; Seebohm, Cat. B. Br. Mus. v., p. 353 ; (Oates) F. Brit. Ind. Birds, ii., p. 108.

♂ *ad.* (Himalayas). Crown and nape pale blue ; frontal line, chin, throat, sides of head, breast, back, scapulars, lower rump, upper tail-coverts, and tail deep black ; wings black, the median and inner greater coverts and broad margins of the inner secondaries white ; underparts below the breast white ; under wing-coverts and axillaries black tipped, with white ; bill and legs black ; iris brown. Culmen 0·52, wing 3·2, tail 2·6, tarsus 0·82 inch. The female has the upper parts rich brown ; rump and upper tail-coverts rufous ; tail brown, narrowly margined with ferruginous ; wings brown, the coverts and inner secondaries margined and tipped with fulvous white ; under parts ashy brown with a fulvous tinge, the centre of the abdomen nearly white ; a pale ring round the eye. In the winter the crown, nape, and the black portions of the plumage have the feathers margined with brown. The young male has in all plumages the white margins on the wing, and the nestling is mottled all over.

Hab. The Himalayas from Afghanistan and Gilgit to Bhutan, and Turkestan. In the summer it inhabits the mountains from 10,000 feet upwards, descending to lower altitudes in the winter.

In habits it does not appear to differ from its allies and frequents wooded localities in the mountains. It breeds in May and June, its nest, which, according to Major Wardlaw Ramsay, is constructed of small twigs and grass, lined with hair, is placed in a crevice or hole in the face of a cliff, and its eggs, 5 in number, are dull cream coloured with a darker zone of the same colour round the thicker end, and measure about 0·84 by 0·62.

Several authors have separated this species from the true Redstarts, placing it in the genus *Adelura* Bp. on account of the absence of red in the tail.

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88. Blue-Fronted Redstart.

RUTICILLA FRONTALIS.

Ruticilla frontalis (Vigors), F.Z.S., 1831, p. 172; (Gould), Cent. B. Himal. M. pl. xxvi. fig. 1 (1832); Prjev. Mongol. i Strana Tangut, ii. pl. xx. fig. 9 (egg); Seebohm. Cat. B. Br. Mus. v. p. 349; Oates, F. Brit. Ind. Birds, ii. p. 91.

Tak-tirriri-pho. Lepch.

♂ *ad.* (Sikhim). Crown, nape, and upper parts generally dark blue, the forehead and supercilium bright blue; throat and upper breast dark blue; tail chestnut-red, the central feathers and terminal portion of all the rest black; upper and under tail-coverts and under parts chestnut; under wing-coverts and axillaries chestnut with blue bases. Culmen 0·57, wing 3·55, tail 3·05, tarsus 0·92 inch. The female has the tail and upper tail-coverts as in the male, but rather duller, the upper parts generally dark fulvous brown, the throat and breast fulvous brown, and the rest of the under parts orange brown. In the winter the male has the blue feathers margined with brown.

Hab. The Himalayas from Gilgit and Kashmir to Assam; the Khási Hills; North Cachar; Manipur; Tibet; Kan-su and Western China.

In summer it is found at an altitude of 14,000 or even higher, but in winter descends as low as 5,000 feet. But little is known of its habits, but it has been found breeding in Kan-su. The nest which was constructed of moss, bass, and the feathers of *Crossoptilum auritum* was placed on the ground under a rotten stump, and contained 4 eggs of a dirty white colour, covered with indistinct reddish-brown spots chiefly at the larger end which measured 0″·73 by 0″·58.

RHYACORNIS, Blanf. 1872.

89. Plumbeous Redstart.

RHYACORNIS FULIGINOSUS.

Rhyacornis fuliginosus (Vigors), P.Z.S., 1831, p. 35; (Hume and Henderson), Lah. to Yark., p. 212 pl. xv.; (Sharpe) Cat. B. Br. Mus. iv. p. 253; Oates, F. Brit. Ind. Birds, ii. p. 98.

Suradum parbo-pho, Lepch; *Chubbia-nakki*, Bhut.

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♂ *ad.* (Himalayas). Entire plumage dull plumbeous blue; the lores blackish blue; tail, tail-coverts, and vent bright chestnut; quills black with bluish margins; bill black; legs dark brown; iris brown. Culmen 0·6, wing 2·9, tail 2·1, tarsus 0·9 inch. The female has the upper parts dull bluish brown; upper and under tail-coverts and base of tail white, the terminal portion of the last black; under parts ashy brown barred with white. The nestling resembles the female, but has the upper parts spotted and streaked with dull white or pale fulvous, and the under parts mottled and barred with brown.

Hab. The Himalayas from Kashmir to Assam, the Khasi Hills, Cachar, Manipur, Arrakan, China, and Mongolia, breeding at altitudes up to 13,000 feet and wintering in the lowlands.

Inhabits mountain streams being always found near water, especially rapids or cascades, and has a habit of expanding its tail frequently. It breeds throughout its range in May and June, and places its nest on a shelf of rock or in the hollow of a bank by the side of a stream, constructing it of moss, fine roots and fibres, lined with hair and wool. The eggs 4 or 5 in number are greenish white thickly mottled with yellowish or reddish brown and measure about 0·76 by 0·60.

HODGSONIUS, Bonap. 1850.

90. Hodgson's Shortwing.

HODGSONIUS PHŒNICUROIDES.

Hodgsonius phœnicuroides (Hodgs.), in Gray's Zool. Misc. p. 83 (1844); Hume and Henderson Lah. to Yark., i. p. 187 pl. vi.; Sharpe Cat. B. Br. Mus. vii. p. 81; Oates, F. Brit. Ind. Birds, i. p. 190.

♂ *ad.* (Himalayas). General plumage slaty blue; quills blackish washed with slaty blue on the outer webs, the tips of the wing white; tail chestnut at the base and blackish on the terminal portion; abdomen white; under tail-coverts slaty blue tipped with white; bill dusky, reddish at the base; gape yellow; legs pale reddish brown; iris dark brown. Culmen 0·7, wing 2·8, tail 3·15, tarsus 1·15 inch. The female has the upper parts oliveaceous brown, the margins of the quills rufous; tail rufous brown, deeper on the basal portion; under parts ochreous grey, the abdomen dull white, the under tail-coverts dark ochreous, with the centres and tips pale ochreous. The young bird resembles the female.

Hab. The Himalayas from Gulmurg and Sonamurg in Kashmir to Bhutan, eastward to Kansu and Moupin in China.

Inhabits the mountains at considerable altitudes, wintering at the foot of the hills and frequents thick underwood in the

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mountain gorges and at the edge of the forest. The alarm note of the male resembles the syllables *tryck, tryck*. The male resembles the Robin in its habits, hops about with its tail over its back, and is very pugnacious to other birds trespassing in its vicinity. The nest is placed in a low bush usually about a foot or eighteen inches from the ground, and is a thick deep cup made of rough grass lined with a few dead leaves, some fine grass, grass-roots and a few feathers. The eggs 3 in number are deposited in June and are uniform deep dark blue in colour, and measure about 0·89 by 0·63, but are somewhat variable in size.

CHIMARRHORNIS, Hodgs., 1844.

91, White-capped Redstart.

CHIMARRHORNIS LEUCOCEPHALUS.

Chimarrhornis leucocephalus (Vigors), P.Z.S. 1830, p. 35 ; (Gould), Cent. B. Himal. M. pl. xxvi., fig. 1 ; Hume and Henders. Lah. to Yark., p. 214 ; Sharpe, Cat. B. Br. Mus. vii., p. 47 ; Oates, F. Brit. Ind. Birds, ii., p. 89.

Gir-chaondia, Hind. ; *Mati-tap-pho*, Lepch ; *Chubia-mati*, Bhut.

♂ *ad.* (Himalayas). Crown and nape white ; rest of the head, neck, breast, back, and wings black ; rump, tail-coverts, and under parts below the breast chestnut-red ; tail chestnut, broadly tipped with black. Culmen 0·65, wing 3·9, tail 3·2, tarsus 1·2 inch. The adult female does not differ from the male ; the young are blackish brown, the feathers of the back, rump, and under parts margined with rufous ; tail and wings as in the adult ; crown and nape white with blackish edges.

Hab. The Himalayas from Afghanistan and Gilgit to Assam ; the Khasi Hills ; Manipur ; the second defile Irrawaddy river ; Arrakan, ranging east to Kansu, the upper Chuanche, and the Ichang gorge on the Upper Yangtse river.

It frequents the mountain streams where there are trees and bushes and in its general habits has much in common with the Water-Ousel. It flies from stone to stone close to the surface of the water, like the Water-Ousel and follows the bends of the stream, and both in flight and when seated both sexes utter a rather loud deep piping note. It seldom perches on a tree but is generally to be seen on the banks of, or on stones in, a stream, and has a habit of constantly moving its tail up and down and expanding the feathers. It feeds entirely on insects which it

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picks up at the edge of the water. It breeds in May; constructing a cup-shaped nest of green moss-roots and fibres, profusely lined with hair, which it places in the hollow of a bank on the side of a stream, and deposits 3 greenish white eggs covered with rufous spots.

GRANDALA, Hodgs., 1843.

92. Hodgson's Blue Chat.

GRANDALA CÆLICOLOR.

Grandala cœlicolor Hodgs. J. As. Soc. Beng. xii., p. 447 (1843); Gould B. of Asia, iv., pl. 36; Seebohm, Cat. B. Br. Mus. v., p. 328; Oates, F. Brit. Ind. Birds, ii. p. 111.

♂ *ad.* (Himalayas). Wings and tail black, the rest of the plumage deep rich blue, most brilliant on the rump and upper tail-coverts; bill and legs deep black; iris brown. Culmen 0·85, wing 5·75, tail 3·6, tarsus 1·18 inch. The female has the plumage brown tinged with blue, especially on the rump and upper tail-coverts, the head, neck, and under parts streaked with fulvous white; under tail-coverts broadly margined with white; one small and one larger patch of white on the wing. The young bird is said to resemble the female, but the fulvous white streaks are broader, and are extended over the flanks, which are unstreaked in the adult females.

Hab. The higher portions of the Himalayas, from Garhwál to Sikkim, from 12,000 to 17,000 feet, eastwards to Tibet and Western China.

Being so little disturbed it is not shy, and frequents barren rocky localities, feeding on insects. On the ground it resembles a Wheatear, but its flight is said to be like that of a Starling or a Bee-eater. In the winter it is found in flocks. It is said to breed in the highest portions of the mountains, but its nest and eggs are as yet unknown.

CYANECULA, Brehm, 1828.

93. White-spotted Blue-throat.

CYANECULA WOLFI.

Cyanecula wolfi, C. L. Brehm, Beitr. zur Vogelk, ii. p. 173 (1822); Dresser, ii. p. 311, pls. 47, 48, and 50, fig. 1; Oates, F. Brit. Ind. Birds, ii. p. 100; *C. suecica* (nec. Linn.) Naumann, ii. p. 414, Taf. 75, figs. 3, 4; *Sylvia cyanecula*, Wolf. Taschenb. i. p. 240 (1810); (Seebohm), Cat. B. Br. Mus. v. p. 311; *C. leucocyana*, C. L. Brehm, Vög. Deutschl., p. 353 (1831) Gould, B. of Gt. Brit. ii. pl. 50.

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Fauvette Gorge bleue, French; *Pisco de peito azul*, Portug.; *Garganti azul*, Span.; *Pett-azurro a macchia bianca*, Ital.; *Blaauw borstje*, Dutch.

♂ *ad.* (Spain). Upper parts clove-brown, lores and ear-coverts dark brown; eye-stripe buffy white; wings, middle tail feathers, and terminal portion of other tail feathers dark brown, and the basal portion chestnut; cheeks, chin, throat, and upper breast rich ultramarine blue, with a large central white patch occasionally altogether blue, bordered below with black and then with bay; rest of under parts, axillaries, and under wing-coverts buffy white; bill, legs, and iris brown. Culmen 0·65, wing 3·1, tail 2·35, tarsus 1·1 inch. The female is paler, and has the under parts buffy white with a dark brown band across the breast, but old females have blue markings on the throat and breast. Young birds resemble the female, but the nestling is striped like a young robin, and has the base of all but the central tail feathers bay. In the autumn the feathers have grey tips.

Hab. Central Europe west to Holland; southern and south-western Europe on passage, wintering in Asia Minor, Palestine, and North Africa; Asia as far east as India.

In habits and song it does not differ from *C. suecica*, and its nest and eggs are like those of that species but are sometimes darker or paler. *C. abbotti* Richmond, (Proc. U.S. Nat. Mus. xviii. p. 484–1896), from Ladak is, I should say, referable to the present species, but I have not had an opportunity of examining a specimen.

94. Red-spotted Blue-throat.

CYANECULA SUECICA.

Cyanecula suecica (Linn.), Syst. Nat. i. p. 336 (1766); (Hewitson), i. p. 102, pl. xxix. fig. 1; (Naumann), ii. p. 417, Taf. 75; Gould, B. of Gt. Brit. ii. pl. 49; Newton, i. p. 321; Dresser, ii. p. 317, pl. 49 and 50, fig. 2; Oates, F. Brit. Ind. Birds, ii. p. 99; Tacz. F. O. Sib. O. p. 332; Saunders, p. 35; Lilford, iii. p. 10, pl. 5; *C. cærulecula* (Pall.), Zoogr. Ross. As. i. p. 480 (1811); (Seebohm), Cat. B. Br. Mus. v. p. 308.

Blaukehlchen, German, *Blaakjaelk*, Norweg. and Dan.; *Blåhake-sångaren*, Swed.; *Kiellavälggu*, Lapp.; *Sinirintakerttu*, *Patakielinen*, Finn.; *Varakushka*,—Russ.; *Huseni-pidda*, Hind.; *Gun-pigera*, *Gurpedra*, Beng.; *Dumbak*, Sind.

♂ *ad.* (Norway). Differs from *C. wolfi* only in having the central spot in the blue bright bay instead of white. The female and young resemble those of that species, there being no character by which they are distinguishable.

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Hab. Northern Europe and Asia, north to Kamchatka, south to Mongolia and Northern Kashmir, wintering in South China, India, Ceylon, and Africa as far south as Abyssinia; has been met with in Alaska, and also, as a rare straggler, in Great Britain.

Frequents swampy localities and bushes near water, amongst which it creeps about like a Hedge Sparrow, and feeds on insects of various kinds, and but rarely on seeds. The song of the male is rich, loud, and varied, and has a peculiar metallic sound, and is generally uttered from the top of a bush or a dead tree. It breeds in June, constructing a nest of dry grass-bents in a loose foundation of leaves and grass, which is placed on the ground or the side of a bank in a swampy locality. The eggs 5 or 6 in number are greenish or brownish olive, sometimes mottled or clouded, usually paler than those of the Nightingale and smaller, measuring about 0·78 by 0·57.

ERITHACUS, Cuv., 1801.

95. REDBREAST.

ERITHACUS RUBECULA.

Erithacus rubecula (Linn.), Syst. Nat. i. p. 337 (1766); Hewitson, i. p. 98, pl. xxviii.; (Naumann), ii. p. 397, Taf. 75, figs. 1, 2; Gould, B. of E., pl. 98; id. B. of Gt. Brit. iii. pl. 48; Newton, i. p. 305; Dresser, ii. p. 329, pl. 51; Seebohm, Cat. B. Br. Mus. v. p. 299; Saunders, p. 37; Lilford, iii. p. 6, pl. 3.

Rouge-gorge, French; *Pisco de peito-ruivo*, Portug.; *Petirojo*, Span.; *Pettirosso*, Ital.; *Rothkehlchen*, German; *Roodborstje*, Dutch; *Rödkjaelk*, Dan.; *Rödstrubesanger*, Norweg.; *Rödhakesångaren*, Swed.; *Kultarintakerttu*, Finn.; *Malinovka*, Russ.

♂ *ad.* (England). Upper parts olivaceous brown; wings and tail dark brown margined with olive; chin, throat, breast, and forehead rich orange red bordered with slate-blue; rest of the under parts white, the flanks and vent washed with olive brown; bill blackish brown, lighter at the base; legs brown; iris dark brown. Culmen 0·55, wing 2·9, tail 2·5, tarsus 1·0 inch. The female differs from the male only in being somewhat duller in tinge, but the young are sandy brown above, spotted with dark brown and dirty white below, marked with dark brown and washed with yellowish brown on the breast and flanks.

Hab. Europe from the Azores and Canaries to Asia Minor, Turkestan, and Persia, and from the Arctic circle to North Africa, being resident in most of its range.

Tame and familiar to a degree the Redbreast is one of our best known species.

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It frequents groves, gardens, and is especially fond of the vicinity of man. Its sweet song may be heard not only during the breeding season but also after the autumn moult, throughout the winter during fine weather. It places its nest in a bank, amongst ivy, in holes of trees, on a shelf in an outhouse, or in an inhabited house, in an old shoe or an old pot, or in almost any odd place; and deposits from March to May 5 to 8 eggs pale reddish white, spotted and blotched with red, sometimes nearly pure white, measuring 0·76 by 0·60. Individuals vary greatly in intensity of colour, and examples having the red breast very dark, from Teneriffe, have been separated specifically (*Erithacus superbus* Koenig), but in my opinion without sufficient reason, as I have examined central European examples as richly coloured.

96. Persian Redbreast.

ERITHACUS HYRCANUS.

Erithacus hyrcanus, Blanf. Ibis., p. 79 (1874); id. E. Pers. ii. p. 160, pl. xv. fig. 2; Dresser, B. of E. ix. p. 47, pl. 644; Seebohm, Cat. B. Br. Mus. V. p. 301.

♂ *ad.* (*Persia*). Resembles *E. rubecula*, but the red on the breast and throat is deeper in colour and the upper tail-coverts are chestnut-brown or dull ferruginous and not olivaceous. Culmen 0·65, wing 3·8, tail 2·35, tarsus 0·5 inch. The female does not appreciably differ from the male, and individual specimens vary considerably in the tone of colour of the throat and upper breast.

Hab. The Caucasus eastward to Persia, and appears to breed throughout that area. In the winter it passes south, but we do not yet know where its winter quarters are.

In habits, song, and nidification, it does not differ from its western congener, and its eggs are not separable from those of that species.

97. Temminck's Redbreast.

ERITHACUS KOMADORI.

Erithacus komadori (Temm.), Pl. Col. No. 570 (1824); (Temm. and Schlegel), Faun. Jap. Aves. p. 55, pl. xxi. C; Seebohm, Cat. B. Br. Mus. v. p. 298.

Aka-hige, Jap.

♂ *ad.* Upper parts orange chestnut; lores, cheeks, throat, chin, breast and flanks margined with white; rest of the under parts white; under wing-coverts black margined with white; axillaries white

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with dark centres; bill and legs brown. Culmen 0·68, wing 2·9, tail 1·9, tarsus 1·02 inch. The female is less brilliant in colour, and the black portions of the plumage are replaced by creamy white margined with slate-grey; centre of abdomen and under tail-coverts white; forehead russet brown.

Originally described from cage birds obtained in Japan, this Redbreast is supposed to have been brought thither from Corea but no collectors have obtained it there. It has, however, been obtained on Yaye-yama island in the southern group of the Loo-choo group, where it is probably indigenous. Nothing is as yet known of its general habits or nidification, and I have not been able to examine a specimen.

98. Japanese Redbreast.

ERITHACUS AKAHIGE.

Erithacus akahige (Temm.) Pl. Col. No. 571 (1824); (Temm. and Schlegel), Faun. Jap. Aves. p. 55, pl. xxi. B; Seebohm, Cat. B. Br Mus. v. p. 299; David and Oust. Ois. Chine, p. 230.

Komadori, Jap.

♂ *ad.* (Japan). Upper parts russet brown; upper tail-coverts and tail orange chestnut; forehead, throat, breast and sides of the head and neck orange chestnut; lower breast and under parts slate-grey, brownish on the flanks and nearly white on the centre of the abdomen; wings, axillaries, and under tail-coverts brown, the quills externally margined with russet. Culmen 0·6, wing 3·0, tail 2·1, tarsus 1·15 inch. The female has the chestnut paler and duller, and the slate-grey is replaced by brown.

Hab. Japan and north-eastern China. It breeds in the mountains at considerable altitudes. and winters on the plains. It is said not to have occurred in Yesso in a wild state, but is common in southern Japan and breeds on the Seven Islands.

I do not find any record of its breeding habits, nor description of its nest or eggs.

CALLIOPE, Gould, 1837.

99. Siberian Ruby-Throat.

CALLIOPE CAMTSCHATKENSIS.

Calliope camtschatkensis, (Gmel.) Syst. Nat. i. p. 817 (1788); Dresser, B. of E. ii. p. 341, pl. 52; Gould, B. of E. pl. 114; id. B. of Asia, iv. pl. 38; Taczanowski, J. f. O. 1873, Taf. i. (egg); *Erithacus calliope*, (Pall.); Seebohm, Cat. B. Br. Mus. v. p. 305; Tacz. F. O. Sib. O. p. 335; Oates, F. Brit. Ind. Birds, ii. p. 102.

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Gunpigora, Beng.; *Gangula*, Nep.

♂ *ad.* (Ural). Upper parts wood-brown tinged with olive, the head darker, a line from the forehead over the eye and a moustachial stripe white; lores and space below the eye black; throat and fore-neck bright scarlet and bordered with deep slate-grey; upper breast brownish grey; lower breast and flanks buffy grey, rest of the under parts white; bill brown, whitish at the base; legs plumbeous brown; iris brown. Culmen 0·55, wing 3·0, tail 2·6, tarsus 1·1 inch. The female lacks the red throat, this part being dull white, the superciliary line is buffy white and the moustachial line is absent; rest of the under parts dull light brown, but the centre of the abdomen is white. The young bird is mottled.

Hab. Asia, north to the Arctic Circle, east to Japan, south to Mongolia and northern China, wintering in southern China, Burma, India, and the Philippines; has occurred in the Ural district and the Caucasus, and has strayed as far west in Europe as France, and possibly to England (cf. Ibis, 1901, p. 158).

It inhabits wooded localities near water, both on the plains and in the hills to the limit of tree growth, and is shy and wary in its habits, creeping amongst the dense willow thickets, and seldom venturing into the open when disturbed. Its song is soft and sweet, but somewhat unvaried. It feeds on insects which it obtains chiefly on the ground and constantly erects its tail when hopping about. Its nest is placed on the ground at the foot of a bush or amongst dense herbage, and is constructed of dried grasses and lined with fine bents. Its eggs, 4 or 5 in number, are deposited late in June or early in July, and are greenish blue sparingly marked, chiefly at the larger end, with pale red spots. In size they measure from 18·8 by 15·3 to 21·4 by 16 millimeters (from 0·74 by 0·60 to 0·84 by 0·63 inch).

100. Tibetan Ruby-Throat.

CALLIOPE TSCHEBAIEVI.

Calliope tschebaievi, Prejv. Mongol i Strana Tangut, ii. p. 44, tab. ix. fig. 1 (1876); Gould, B. of Asia, iv. pl. 40; Seebohm, Cat. B. Br. Mus. v. p. 308; Oates, F. Brit. Ind. Birds, ii. p. 103; Pleske, Prjevalsky's Reisen, Vögel, ii. p. 73, Taf. i. fig. 3, 4. Taf. v. fig. 9 (egg).

♂ *ad.* (Sikhim). Resembles *C. pectoralis* but has the upper parts olive-brown tinged with russet, and the cheeks white not black. The female and young of the two species are undistinguishable. Culmen 0·6, wing 3·0, tail 2·3, tarsus 1·2 inch.

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Hab. Tibet, Kan-su, Sikhim and Assam, extending to the Khási Hills where it is common at Shillong, and has been obtained at Mymensing and Bhamo.

Inhabits the sub-alpine bush region and in Kansu is rarer than *C. camtschatkensis*. It has been found breeding there, the nest being placed on the ground under a *Spiræa* bush, and was round, with a hole in the side, and constructed of dried grasses. The eggs, 4 in number, were bluish green with very faint rust-red spots, and measured 20·5 by 15·5 millimetres (0·81 by 0·61 inch).

101. Himalayan Ruby-Throat.

CALLIOPE PECTORALIS.

Calliope pectoralis, Gould, Icon. Av. part i. pl. iv. (1837) ; id., B. of Asia ; iv. pl. 39 ; (Seebohm), Cat. B. Br. Mus. v. p. 306 ; Oates, F. Brit. Ind. Birds, ii. p. 103 ; *C. bailloni*, Severtz. Turk. Jevot, pp. 65, 122 (1873).

♂ *ad.* (Himalayas). Upper parts dark slate tinged with olive ; the crown blacker, forehead and supercilium white ; middle of chin and throat bright crimson ; sides of chin and throat, and entire breast black, rest of under parts white ; central tail-feathers black, the rest white on the basal half, then black tipped with white ; bill blackish brown ; legs brown ; iris livid. Culmen 0·6, wing 3·0, tail 2·4, tarsus 1·2 inch. The female has the upper parts earthy brown, the forehead and supercilium dull white ; chin and middle of throat white ; abdomen pale fulvous, and the dark portions of the tail brown not black. The nestling has the upper parts fulvous brown streaked with fulvous ; underparts marked with dark brown, the tail feathers tipped with fulvous, but the male has the base of the tail white. In the autumn the adult male has the feathers margined with ashy.

Hab. Turkestan and the higher portions of the Himalayas from Gilgit to Sikhim and Bhutan, wintering at lower altitudes and on the plains at the foot of the hills.

It breeds in Kashmir and Sikhim at an altitude of 10,000 feet and upwards, but there is no recorded instance of its nest having been taken and properly identified. A nest said to belong to it was taken in Sikhim, but the eggs were pale salmon buff, which makes it doubtful that they belonged to this species.

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COSSYPHA, Guérin, 1843.

102. White-throated Chat.

COSSYPHA GUTTURALIS.

Cossypha gutturalis Guérin. Rev. Zool. p. 162 (1843); Guér. and Lafresn. in Ferr. et Galin. Voy. en Abyss. iii. p. 201, pl. v. (1847); Dresser, B. of E. ii. p. 347, pls. 53, 54; (Seebohm), Cat. B. Br. Mus. v. p. 304; *Irania filoti*, Defilippe. Arch. Zool. Modena, ii. p. 381 (1863), *Saxicola albigularis*, Pelz. Sitz. Ak., Wiss. Wien. xlviii. p. 150 (1863).

♂ *ad.* (Asia Minor). Upper parts lead-grey, wings blackish, tail black; lores, scapulars, and sides of throat glossy black; superciliary stripe and a narrow line from the chin widening till it reaches the breast pure white; breast and underparts yellowish rufous; centre of abdomen white washed with pale rufous; under wing-coverts rufous, thighs lead-grey tinged with rufous; bill and legs black; iris brown. Culmen 0·65, wing 3·75· tail 3·0, tarsus 1·05 inch. The female has the upper parts and wings brownish grey, tail black, sides of head, neck and upper breast brownish grey; a dull white spot on the throat; lower breast and under parts otherwise dull white; flanks and breast washed with rufous. The young male has the rufous on the under parts replaced by buff. The nestling is greyish brown marked with sandy brown spots and streaks, the lower breast and abdomen dull white.

Hab. Asia Minor, Palestine, Western Turkestan, and Persia wintering in Africa south of Abyssinia.

In its habits it has much affinity with *Aedon galactodes* and frequents rough, rocky, and bush- or tree-covered localities, and when it settles on a bush or stone has a habit of jerking its tail. It is very shy and difficult of approach, for it creeps about amongst the rocks and bushes with great ease. Its song is clear and bell-like, and would rival that of the Nightingale if it were more prolonged. Its nest is placed low down on a low tree or bush, and in size, materials and position, resembles that of *Aedon galactodes*, being constructed of dry twigs and strips of bark, the upper part of fine grasses mixed with plant cotton and down with woollen threads and rags interwoven. The eggs, 4 or 5 in number, are deposited in May, and are pale greenish blue, marked all over, but more profusely at the larger end, with small rusty yellow dots and spots, and in size measure about 22·5 by 16·0 millimetres (0·88 by 0·63 inch).

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NEMURA, Hodgs. 1845.

103. Redflanked Bluetail

NEMURA CYANURA.

Nemura cyanura (Pall.), Reis. Russ. Reichs. ii. App. p. 709 (1773); (Midd.) Sib. Reis. ii. p. 177, tab. 15, fig. 5, (pull); Dresser, ii. p. 355, pl. 55; (Sharpe), Cat. B. Br. Mus. iv. p. 255; Tacz. F.O. Sib. O. p. 343.

♂ *ad.* (E. Siberia). Upper parts and sides of head greyish blue washed with cobalt on the rump and upper tail-coverts; quills brown externally margined with blue; a shoulder patch cobalt; tail blue; a broad eye-stripe white narrowly edged above with blue; feathers in front of the eye blackish; under parts creamy white, flanks bright orange; bill black; legs reddish brown; iris brown. Culmen 0·45, wing 3·15, tail 2·5, tarsus 0·9 inch. The female is olivaceous brown above washed with blue on the shoulders and rump; tail blackish grey margined with blue; sides of head and neck brown marked with buff; forehead and eye-streak buff; under parts dull white, the throat tinged with buff, the breast with brownish grey, and the flanks are orange-rufous. The male often breeds in immature plumage, in which it differs but little from the female. The young are spotted like those of the Redbreast.

Hab. The Perm Government, west of the Ural to Eastern Siberia, China, and Japan, as far north as the Yenesei and Udskoi-Ostrog and as far south as Mongolia, wintering probably in south China.

In its habits it is said to be as tame and confiding as a Redbreast, to which it bears some resemblance, but has no affinity at all with the Flycatchers with which it has been united. It frequents woods, groves, and gardens, as well as bush-covered plains, and is also found in the mountains. Its call-note is short and sharp, resembling the syllables *keke, keke*. The nest is placed on the ground amongst the stones well concealed amongst the herbage, but I do not find any description of its eggs. Young birds fully fledged were obtained at Udskoi-Ostrog on the 15th July.

104. Subsp. Nemura rufilata.

Nemura rufilata (Hodgs.) P.Z.S. p. 27 (1845); *N. cyanura*, (nec. Pall.); Dresser, ii. p. 355, pl. 55 (♂ *ad.* desc. and fig.); (Seebohm), Cat. B. Br. Mus. v. p. 256; (Oates), F. Brit. Ind. Birds, ii. p. 106.

♂ *ad.* (Sikhim). Upper parts and sides of neck and head deep Prussian blue washed with bright ultramarine on the shoulders and rump;

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tail deep Prussian blue ; lores blackish ; a broad streak over the eye, rich ultramarine ; under parts white ; flanks orange rufous ; bill and legs black ; iris brown. Culmen 0·5, wing 3·4, tail 2·8, tarsus 0·88 inch. The female resembles that of *N. cyanura* but has the rump greenish blue, the sides of head and neck and flanks ochreous and a patch of orange chestnut on each side of the body.

Hab. Himalayas from Gilgit and Kashmir to Sikkim; the Khasi Hills; Tipperah ; Manipur, ranging into Mongolia. In the summer it is found up to 11,000 feet, wintering at lower levels.

In habits it does not differ from *N. cyanura*, of which indeed it is but a richly coloured southern form. It breeds in May and June, placing its nest, which is constructed of moss and grass, in holes in banks and under tree-roots, and in June depositing 4 eggs, which vary from uniform white to white distinctly spotted with pale reddish brown, and measure about 0·71 by 0·56.

LARVIVORA, Hodgs. 1837.

105. Siberian Bluechat.

LARVIVORA CYANE.

Larvivora cyane (Pall.) Reis. Russ. Reichs. iii. p. 697 (1776) ; (Radde) Reis. Siber. Vögel, p. 250, pl. 10, figs. 1–4 ; (Seebohm), Cat. B. Br. Mus. v. p. 303 ; Tacz. F. O. Sib. O. p. 338.

♂ *ad.* (E. Siberia). Upper parts, cheeks, and ear-coverts dull dark blue, brighter on the forehead, and crown wings and tail brown externally washed with blue ; under parts white, the flanks washed with brown ; no eye-stripe ; bill dark brown, the base of lower mandible paler ; legs and iris brown. Culmen 0·6, wing 3·0, tail 1·9, tarsus 1·0 inch. The female is olive-brown above tinged with rufous on the wings, tail, and upper tail-coverts ; sides of chin, throat, flanks, and breast fulvous mottled with brown ; middle of chin, throat, abdomen, and under tail-coverts white. The young resemble the female.

Hab. Eastern Siberia in summer, wintering in Burma, Tenasserim, China, Mongolia, and as far south as Borneo.

Frequents dense bush-growth and vegetation through which it creeps like a mouse. Its song is sweet and melodious and is uttered from a bush, low tree, or from the ground. Its nest is placed on the ground, well concealed, and its eggs, 5 or 6 in number. are deposited in June and are uniform blue, unspotted, and in size vary from 19·0 by 13·7 to 18·2 by 15·0 millimetres. In India it is replaced by a nearly allied species. *Larvivora brunnea* Hodgs.

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DAULIAS, Boie, 1831.

106. NIGHTINGALE.

DAULIAS LUSCINIA.

Daulias luscinia, Linn. Syst. Nat. i. p. 328 (1766) (Hewitson), i. p. 124, pl. xxxiii; (Naumann), ii. p. 374, Taf. 74, fig. 2; Gould, B. of E. ii. pl. 116, id., B. of Gt. Brit. ii. pl. 56; Newton, i. p. 312; Dresser, ii. p. 363, pl. 56, fig. 1; (Seebohm), Cat. B. Br. Mus. v. p. 294; Saunders, p. 39; Lilford, iii. p. 8. pl. 4.

Rossignol, French; *Ruxinol*, Portug.; *Ruiseñor*, Span.; *Rusignuolo*, Ital.; *Nachtigall*, German; *Nachtegaal*, Dutch; *Lapadnay-solovey*, Russian.

♂ *ad.* (England). Upper parts generally rich brown with a rufous tinge, under parts greyish white; upper tail-coverts and tail rusty red; bill and legs brown; iris hazel; first primary extending 0·2 beyond the primary coverts, second primary about equal to the fifth. Culmen 0·65, wing 3·3, tail 2·65, tarsus 1·05 inch. The female resembles the male but the young are darker, and have the upper parts spotted with ochreous, and the under parts washed with brownish yellow, the feathers with greyish brown edges.

Hab. Central southern and western Europe ranging into the south of England, and as far east as Russia, where, however, it is rare; winters in Africa as far south as Abyssinia, Nubia, and the Sudan. Though retiring in its habits it is not a shy bird and is often met with near human habitations.

It frequents woodlands, groves, and gardens, especially low-lying damp localities, and feeds chiefly on the ground, its food consisting almost exclusively of insects of various kinds. As a songster it is unrivalled, no European bird having so rich and varied a song. It sings both in the day and night, more especially in the latter, and its song may be heard until its young are hatched. It breeds in May and only raises one brood in the season. Its nest, which is constructed externally of dry leaves, usually those of the oak, and lined with fine bents, rootlets, and occasionally horsehair, is placed on or close to the ground in some sheltered place, where the grass and undergrowth is thick, and its eggs, 4 to 6 in number, are deep olive brown or olivaceous, unspotted, and vary in size from 0·87 by 0·67 to 0·75 by 0·53.

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107. Thrush Nightingale.

DAULIAS PHILOMELA.

Daulias philomela (Bechst.), Gemeinn. Naturg. Deutschl. iv. p. 536 (1795); (Naumann), ii. p. 362, Taf. 74, fig. 1; Dresser, ii. p. 269, pl. 56, fig. 2; (Seebohm), Cat. B. Br. Mus. v. p. 295; *Philomela turdoides*, Gould B. of E. ii. pl. 117.

Rusignuolo-foresteriero, Ital.; *Sprosser*, German; *Nattergal*, Dan.; *Näktergal*, Swed.; *Satakielinen*, Finn.; *Solovey*, Russ.

♂ *ad.* (Sweden). Differs from *D. luscinia* in being larger, less rufous in colour, the breast marked with indistinct spots, and the first primary is very short and narrow, 0·4 inch shorter than the coverts. Culmen 0·6, wing 3·6, tail 2·8, tarsus 1·18 inch. Second quill equal to or longer than the fourth, the third longest.

Hab. Europe generally as far east as S.W. Siberia; Asia Minor, and Turkestan; in summer from the valley of the Rhine up to southern Sweden, and wintering in Africa. It does not occur in Norway or Great Britain.

In general habits it resembles the common Nightingale, and its song, though deeper and more powerful, is not quite so soft and sweet as that of that species. Its call note is different and resembles the syllables *glock-arrr*. It breeds in May or June, placing its nest, which is well concealed, on the ground or on an old stump. The nest is built of dead leaves and lined with grass-bents and fine rootlets; 4 or 5 eggs, sometimes 6, are usually deposited, and are like those of *D. luscinia*, olive-brown or greenish olivaceous, usually unspotted, but occasionally they are marked with pale olive-brown dots chiefly round the larger end. In size they vary from 0·8 by 0·62 to 0·9 by 0·65, and are as a rule paler and more elongated than those of *D. luscinia*.

108. Persian Nightingale.

DAULIAS HAFIZI.

Daulias hafizi (Severtzoff), Turk. Jevot., p. 120 (1873); Blanf., E. Persia, ii. p. 169, pl. x, fig. 2; Dresser, ix. p. 49, pl. 645; *Lusciola golzii*, Cab. J. f. O. 1873, p. 79; (Seebohm), Cat. B. Br. Mus. v. p. 297.

Sololvei, Russ.; *Bulbul*, Persian; *Sanduas*, Tartar; *Sochak*, Armenian.

♂ *ad.* (Lenkoran). Differs from *D. luscinia* in having a longer wing and tail, in having the lores and a stripe over the eye dull white; the rump,

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upper tail-coverts and tail are not so deep red in colour, and the first primary is about equal in length to the primary-coverts. Culmen 0·7, wing 3·3, tail 3·1, tarsus 1·1 inch, second primary equal to the fifth in length.

Hab. The Caucasus east to Persia and Turkestan. Two specimens have been obtained in Oudh, India, one in October and one in November.

In general habit it agrees closely with the Western Nightingale but its song is inferior. Its nest and eggs also closely resemble those of *D. luscinia*.

SYLVIA, Scop, 1769.

109. Barred Warbler.

SYLVIA NISORIA.

Sylvia nisoria (Bechst.) Gemeinn. Naturg. Deutschl. iv. p. 580, pl. xvii. (1795); Naumann, ii. p. 430 Taf. 76, figs. 1, 2; Gould, B. of Eur. ii. p. 128; Dresser, ii. p. 435, pl. 68; Seebohm, Cat. B. Br. Mus. v. p. 6; Saunders, p. 51; Lilford, iii. p. 60, pl. 30.

Fauvette épervière, French; *Bigia striata*, Ital.; *Sperbergräsmücke*, German; *Brystvatret-Sanger*, Dan.; *Bröstvattradsångare*, Swed.; *Podoreschnik*, Russ.; *Kirjarinta-kerttu*, Finn.

♂ *ad.* (Sweden). Upper parts dark ashy grey with a brownish tinge on the back; the lower back, rump, upper tail-coverts, and some of the scapulars barred with blackish grey and tipped with white; quills dark brown; tail dark ashy, the outer feather bordered externally with white, the rest except the central ones similarly bordered on the inner web; sides of neck and head and greyish, the rest of the under parts white, all barred with dark ashy grey crescentic bands; flanks washed with grey; bill dark horn, yellowish at base of lower mandible; legs dull yellowish flesh; iris pale yellow. Culmen 0·65, wing 3·5, tail 2·95, tarsus 1·0 inch. The female resembles the male, but is browner and less barred on the under parts. The young are unbarred, sandy grey above and white below, on the breast and flanks washed with sandy buff; wings and tail browner, the secondaries and wing-coverts edged and tipped with dull whitey brown.

Hab. Europe; from southern Sweden east to the Ural and south to the Rhine; Turkestan, the Altai range, Persia, and the Caucasus, and winters south of Nubia, probably in Central Africa; has frequently occurred as far west as Great Britain and Ireland.

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In general habits it resembles the Garden-Warbler, frequents groves and gardens, not the true forest. It is very shy and retiring and is constantly in motion. Its song is loud, clear, and melodious, beginning and ending with a chattering call, and its call-note is harsh. It breeds in May, placing its nest on a bush or tree. The nest is cup-shaped, neatly constructed of dry grasses or plants, intermixed with spiders' webs and lined with horsehair. The eggs, 4 to 6 in number, are pale creamy grey with scarcely visible grey marblings, or creamy grey with indistinct pale purplish grey or pale brown markings, and in size vary from 0·85 by 0·61 to 0·86 by 0·65. It feeds chiefly on insects but also to some extent on fruit and berries.

110. WHITETHROAT.

SYLVIA CINEREA.

Sylvia cinerea, Lath. Ind. Orn. ii. p. 514 (1790); Hewitson, i. p. 130, pl. xxxv. figs. 1, 2; Naumann, ii. p. 464, Taf. 78, figs. 1, 2; Gould, B. of E. ii. pl. 125, fig. 1; id., B. of Gt. Brit. ii. pl. 57; Seebohm, Cat. B. Br. Mus. v. p. 8; Saunders, p. 41; Lilford, iii. p. 50, pl. 25; ? *S. rufa* (Bodd.) Tabl. Pl. Enl. p. 35 (1783); Newton, i. p. 406; Dresser, ii. p. 377, pl. 57; *S. fuscipilea*, Severtzoff, I. f. O. 1875, p. 176; Seebohm, Ibis, 1884, p. 427.

Fauvette grise, French; *Papa-amoras*, Portug.; *Pastorcilla*, Span.; *Sterpazzolo*, Ital.; *Dorn-Grasmücke*, German; *Riet-vink*, Dutch; *Graa-Grœssmutte*, Dan.; *Graasanger*, Norweg.; *Törn-sångare*, Swed.; *Hermaa-kerttu*, Finn.; *Savirucha*, *Polewaja-Slavka*, Russ.

♂ *ad.* (Norway). Upper parts greyish brown, becoming ash-grey on the head and upper tail-coverts; wing-coverts and secondaries broadly margined with rusty red; tail brown with lighter margins, the outer feathers broadly edged with white; under parts white, the lower throat and breast washed with dull rose, the flanks and under tail-coverts with pale buffy brown; bill blackish brown, the base of the lower mandible yellowish flesh; legs yellowish flesh; iris yellowish brown. Culmen 0·48, wing 2·75, tail 2·52, tarsus 0·85 inch; spurious primary 0·1 inch shorter than the coverts; second, third, and fourth nearly equal, the second rather the shortest. The female is duller, has the head browner, and the breast washed with pale ashy brown, not rose colour. In the autumn the upper parts are more rufous.

Hab. Europe generally, north to about 65° in Scandinavia, south to the Mediterranean, wintering in the Canaries and Africa as far south as Damaraland; Asia Minor, Palestine, and

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Asia east to Turkestan, north to Western Siberia, south to India, where it is rare.

Frequents gardens and groves, and is not as a rule shy. Its song is short and somewhat monotonous, often uttered when flying jerkily from bush to bush. Its food consists of insects and their larvæ. Its nest is placed amongst grass or weeds or on a bush, usually not high above the ground, and is lightly constructed of dried grass-bents and plant-stems, lined with fine bents and occasionally a few horsehairs, and the eggs, 4 to 6 in number, are usually deposited in May and are greenish white speckled and spotted with greyish olive and mottled or marbled with pale brownish; in size they measure about 0·73 by 0·48.

Specimens from Palestine, the Altai range, Persia, Turkestan, and Somaliland (*S. fuscipilea*) are as a rule a trifle larger, darker and greyer, but are not even sub-specifically distinct.

111. Himalayan Whitethroat.

SYLVIA ALTHÆA.

Sylvia althæa, Hume, Stray Feathers, vii. p. 60 (1878); Pleske Orn. Ross. p. 99, pl. 1, figs. 1, 2; Dresser, ix. p. 57, pl. 646, fig. 2; Seebohm, Cat. B. Br. Mus. v. p. 20; Oates, F. Brit. Ind. Birds, i. p. 397.

ad. (Transcaspia). Upper parts dark bluish grey, tinged with brown on the back; wings and tail blackish brown; outer tail-feathers white except on the basal portion of the inner web, and the central tail-feathers lighter brown than the others; under parts white, flanks washed with grey; bill dark horn; legs plumbeous brown; iris light brown. Culmen 0·6, wing 2·65, tail 2·4, tarsus 0·85 inch; second primary intermediate between the sixth and seventh. The sexes do not appreciably differ, except that the female is generally the smaller. In the autumn the upper parts are bluer in colour, and the flanks are deeper grey.

Hab. Transcaspia, Turkestan, Persia, and Kashmir, wintering in India, probably as far south as Ceylon.

It inhabits bush-covered localities and is found in the mountains as high as 9,000 feet. Its nest resembles that of *S. cinerea* and its eggs, usually 5 in number, are deposited in May, are dull white finely marked with greenish grey, and measure about 0·67 by 0·53.

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112. Lesser Whitethroat.

SYLVIA CURRUCA.

Sylvia curruca (Linn.), Syst. Nat. i. p. 329 (1766); Hewitson, i. p. 132, pl. xxxv. fig. 4; Naumann, ii. p. 451, Taf. 77, fig. 1; Gould, B. of Gt. Brit. ii. pl. 58; Newton, i. p. 410; Dresser, ii. p. 383, pl. 58; Seebohm, Cat. B. Br. Mus. v. p. 17; Tacz. F. O. Sib. O. p. 277; Saunders, p. 43; Lilford, iii. p. 52, pl. 26; *S. garrula*, Bechst., Gemeinn. Naturg. Deutschl., 2nd ed. ii. p. 540 (1807); Gould, B. of Eur. ii. pl. 125.

Becfin-babillard, French; *Parlanchin*, Span.; *Zaun-Grasmücke*, German; *Braamsluiper*, Dutch; *Gjærdesanger*, Dan.; *Græssmutte*, Norweg.; *Ärtsmyg*, Swed.; *Herne-kerttu*, Finn.; *Peresmeshka*, Russ.

♂ *ad.* (Turkey). Crown smoke-grey; lores and ear-coverts blackish brown; upper parts generally brownish smoke-grey; wings and tail blackish brown, the primaries margined with ashy brown, the inner secondaries with whitish grey; outer tail feather whitish grey; under parts white with a rosy tinge, washed with pale rufous on the flanks; bill blackish, the base of the lower mandible dull yellowish; legs plumbeous; iris pearly white. Culmen 0·45, wing 2·55, tail 2·3, tarsus 0·75 inch; first primary 1·1 inch shorter than the second, which is intermediate between the fifth and sixth, the third and fourth nearly equal and longest. The female is somewhat smaller and duller, the head browner, lores and ear-coverts paler, and under parts tinged with grey. Young birds have the upper parts browner and the under parts washed with pale brown.

Hab. Europe generally from the Mediterranean north to Trondhjem in Norway and from western Europe at least to the Ural: common in Great Britain up to Stirlingshire above which it is rare; winters in Africa as far south as Nubia and Abyssinia.

It affects woodlands, groves, and gardens, but not the true forest, and prefers bush-growth, hedges, &c., to trees. Lively and active, it is by no means shy when unmolested. Its call-note is harsh and its song consists of a number of hasty twittering and flute-like notes, with a frequent repetition of the syllables *sip, sip, sip*, and, though pleasing, lacks variety. It feeds chiefly on insects of various kinds and their larvæ, but also to some extent on fruit and berries. It breeds in May or June, placing its nest on a bush not very high above the ground, this latter being slightly though firmly constructed of

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dried bents lined with fine bents, rootlets, and horsehair. The eggs, usually 4 or 5 in number, are white, boldly but sparingly blotched with dull light brown and purplish grey shell-markings, and darker brown surface-spots which are larger and more profuse at the larger end, and in size average about 0·65 by 0·51.

113. Siberian Whitethroat.

SYLVIA AFFINIS.

Sylvia affinis Blyth, Cat. B. B. Mus. As. Soc. p. 187 (1849); Dresser, ix. p. 53; Seebohm, Cat. B. Br. Mus. v. p. 19; Oates, F. Brit. Ind. Birds, ii. p. 397.

Resembles *S. curruca*, but has the second primary intermediate between the sixth and seventh and the upper parts are browner. Culmen 0·5, wing 2·55, tail 2·4, tarsus 0·85 inch.

Hab. Western Siberia, north almost to the limit of the forest growth, Turkestan, Persia, and Northern China, wintering in Baluchistan, India, and Ceylon.

In habits and nidification it does not differ from *S. curruca*, and its eggs closely resemble those of that species. It differs, in fact, but little from *S. curruca* and is rather a questionable species, as the wing formula is frequently somewhat variable.

114. Least Whitethroat.

SYLVIA MINUSCULA.

Sylvia minuscula Hume, Stray Feathers, viii. p. 103 (1879); Pleske, Orn. Ross. p. 102, pl. i. figs. 5, 6, 7; Dresser, ix. p. 53, pl. 646, fig. 1; Seebohm, Cat. B. Br. Mus. v. p. 20, pl. 1; Oates, F. Brit. Ind. Birds, ii. p. 398.

Tint-Kornu, Tuntu in Yarkand.

Ad. Crown bluish grey; back sandy brown, much paler than in *S. curruca*; second primary intermediate between the seventh and eighth, or equal to the seventh. Culmen 0·5, wing 2·4, tail 2·15, tarsus 0·8 inch.

Hab. Asia from the Caspian through Afghanistan, Turkestan, and Kashmir to Mongolia, wintering in Baluchistan, Sind, and northern India as far east as Jodhpore.

In habits and nidification it closely resembles *S. curruca*, but its eggs are somewhat smaller than those of that species.

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115. Garden-Warbler.

SYLVIA HORTENSIS.

Sylvia hortensis Bechst., Gemeinn. Naturg. Deutschl. iv. p. 550 (1795); Hewitson, i. p. 128, pl. xxxiv. figs. 3, 4; Naumann, ii. p. 478, Taf. 78, fig. 3. Gould, B. of Eur. ii. pl. 121; id., B. of Gt. Brit. ii. pl. 62; Saunders, p. 49; Lilford, iii. p. 54, pl. 27; *S. salicaria* (Linn.) apud Newton, i. p. 414; Dresser, ii. p. 429, pl. 53.

Fauvette des Jardins, French; *Andahuertas*, Span.; *Beccafico*, Ital.; *Garten-Gräsmücke*, German; *Tuinfluiter*, Dutch; *Havesmutte*, Dan.; *Havesanger*, Norweg.; *Trädgårdssångaren*, Swed.; *Lehtokerttu*, Finn.; *Ssmorodinka*, Russ.

♂ *ad.* (Norway). Upper parts hair-brown, the wings and tail rather darker; chin, throat and under parts white, the throat, breast, and flanks washed with buff or buffy brown; under wing-coverts pale buff, bill lead brown, lower mandible reddish white at base; legs plumbeous; iris brown. Culmen, 0·45, wing 3·12, tail 2·32, tarsus 0·8 inch. First quill longer than the third, the second longest. The female does not differ perceptibly from the male except in being a trifle paler, and the young are darker above with a greenish tinge and the under parts are washed with yellowish.

Hab. Europe, north to the Porsanger fiord in Norway, south to the Mediterranean, and Asia as far east as the valley of the Yenesei; wintering in Africa, as far south as Damaraland and Cape Colony.

Frequents gardens and groves, especially where there is good cover, and is shy and secretive in its habits. Its song is sweet, though wild and irregular, and its call note is a deep harsh *tack, tack, tack*. It feeds on insects and also on fruit and berries. Its nest is usually placed in a bush or a bramble vine and is lightly constructed of grass-bents and rootlets, intermixed with a little wool and moss, and lined with fine roots and sometimes a little hair. The eggs, 4 or 5 in number, are deposited in May or June and are pale French white with lilac-grey shell-markings and clouded and marbled with olivaceous brown, sometimes also spotted and speckled with dark brown. In size they vary from 0·6 by 0·53 to 0·87 by 0·6. Only one brood is raised in the season.

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116. Desert Warbler.

SYLVIA NANA.

Sylvia nana (Hempr. and Ehr.), Symb. Phys. *Aves* fol. c.c. (1829); Gould, B. of Asia, iv. pl. 50; Dresser, ix. p. 63, pl. 648; Seebohm, Cat. B. Br. M. p. 26; Oates, F. Brit. Ind. Birds, ii. p. 396; *S. aralensis*, Eversm. Bull. Soc. Nat. Mosc. xxiii. pt. 2, p. 565, pl. viii. fig. 1; Prjev. Mongol. i. Strana Tangut., tab. xx. fig. 5, (egg) i.; *S. deserti*, Loche, Rev. and Mag. Zool. 1858. p. 394, pl. xi. fig. 1; *S. delicatula*, Hartl., Ibis, 1859, p. 340, pl. x. fig. 1; *S. doriæ*, Defilippi Viagg. Pers. p. 248; *S. chrysophthalmus*, Hengl. Orn. N. O. Afr. i. p. 306.

Bajalyschnitschek, Russ.

♂ *ad.* (Transcaspia). Upper parts greyish isabelline, the lower rump and upper tail coverts washed with rufous; quills margined with rufous buff; median rectrices rufous buff, outer rectrix white, remainder dark brown margined with rufous buff; under parts white, flanks washed with buff; bill pale horn; legs brownish isabelline; iris pale yellow. Culmen 0·4, wing 2·5, tail 1·95, tarsus 0·75 inch. The female resembles the male. In the autumn the upper parts are more rufous in tinge, and the young are more rufous than the adult.

Hab. Northern Africa as far west as Algeria; Arabia, Persia, Transcaspia, Turkestan, N.W. India, east to Alaschan in China; a straggler to European Russia, and has been once recorded from Italy.

Frequents sandy sterile localities, where there are bushes, and feeds almost entirely on small insects which it picks up from the ground. It is shy and restless and is said to somewhat resemble *Drymœca* in its general habits. Its song is rich and pleasant, and is somewhat like that of the Whitethroat. Its nest resembles that of the Reed-Warbler, is elongate, purse-shaped, open, constructed of grass-bents and blades and leaves, and carefully lined with wool, and the eggs are greenish white spotted and marked with olive-green surface spots, and pale lilac underlying shell-markings, the markings being more numerous at the larger end. In size they measure 1·4 by 1·1 cm. Algerian examples are as a rule more rufous in tone of colour than those from Asia, and Dr. Koenig considers the Algerian bird to be specifically separable, a view with which however I do not agree.

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117. Spectacled Warbler.

SYLVIA CONSPICILLATA.

Sylvia conspicillata, Marm. fide Temm. Man. d'Orn. i. p. 210 (1820); Temm. Pt. Col. 6, fig. 1; Dresser, ii. p. 393, pl. 60; Seebohm, Cat. B. Br. Mus. v. p. 22; *S. passerina*, (Gmel.) fide Temm. Man. d'Orn., i. p. 213.

Babillard à lunettes, French; *Friolencos*, Span.; *Sterpazzola-sarda*, Ital.

♂ *ad.* (Sicily). Crown and sides of head to below the eye slate-grey; lores and a narrow frontal line blackish; back brownish ash washed with grey on the rump and upper tail-coverts; tail dark brown; the outer feather white with a brown shaft, the next two tipped with white; wing feathers margined with rufous; chin, sides of throat, and centre of abdomen white, throat otherwise ashy blue; lower breast flanks and under tail-coverts rosy rufous; bill dark horn, yellowish at the base; legs yellowish brown; iris brown, edge of eyelids red. Culmen 0·4, wing 2·25, tail 2·1, tarsus 0·7 inch. The female is duller and paler, crown pale ash, the feathers with brown tips; sides of head and lores darker and greyer; under parts white, the breast and flanks washed with rosy rufous. The young resemble the female but are browner and have no grey on the head; wings and tail with broad rufous margins: throat white; rest of under parts pale rufous buff, becoming nearly white on the abdomen.

Hab. The Mediterranean area as far east as Palestine and west to the Canaries and Cape Verd Islands. In the southern portion of its range it is a resident, but in south Europe it migrates further south in the autumn.

It frequents dry localities where there is low scrub, and is shy and secretive, but otherwise resembles the Whitethroat in its habits. Its song is short and pleasing and is uttered from the top of a bush or when the bird is hovering in the air. Its nest, which is loosely but neatly constructed of grass-bents and lined with horsehair, is placed low down in a bush. The eggs, 4 or 5 in number, are pale greenish grey, minutely freckled with greenish brown, and are usually deposited in April or May. In size they average about 0·64 by 0·49.

118. Ménétriés's Warbler.

SYLVIA MYSTACEA.

Sylvia mystacea, Ménétr. Cat. Rais. p. 34 (1832); Dresser, ix. p. 59, pl. 647; Seebohm, Cat. B. Br. Mus. v. p. 20, (partim); *S. rubescens*, Blanf., Ibis, 1874, p. 77.

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Bjeloussyj-Kusnetschik, Russ.

♂ *ad.* (Lenkoran). Crown, sides of the head, and ear-coverts dull black gradually merging into the grey on the upper parts which are slate-grey; wings and tail blackish, externally margined with slate-grey; outer rectrix with outer web and end white, the next tipped with white; chin and a line bordering the black on the sides of the head pure white; throat and breast chestnut-vinous; flanks pale reddish; rest of the under parts white; beak brown, lower mandible yellowish at the base; legs brownish isabelline; iris clear chestnut-red, the bare skin round the eye bright yellow. Culmen 0·48, wing 2·35, tail 2·1, tarsus 0·75 inch. The female has the entire upper parts plain brownish grey, the margins to the wings and tail also brownish grey, and the under parts white tinged with pale ochreous.

Hab. From the Caucasus through Transcaspia to Persia, Turkestan, and northern Afghanistan, south to Fao on the Persian Gulf.

It inhabits the plains and the lower portions of the mountains, and in its general habits does not differ from its allies, but if anything flits more nimbly through the dense bush foliage and when on the wing carries its tail very high. Its nest is placed in a bush near the ground and is constructed of tamarisk-twigs, bents, and vegetable down, and lined with finer bents, vegetable filaments and occasionaly a few horsehairs; and the eggs, which are deposited in May or early in June, are brilliant white, sometimes with a rose tinge finely dotted with black, blackish grey, or dirty brown spots, the larger end so closely spotted that the spots are confluent, and in some the black spots and dots are wanting. In size they vary from 15 by 12 to 17 by 13 millimetres (0·59 by 0·47 to 0·67 by 0·51 inch).

119. Subalpine Warbler.

SYLVIA SUBALPINA.

Sylvia subalpina, Bonelli, fide Temm. Man. d'Orn. i. p. 214 (1820); Temm. Pl. Col. 6, fig. 2, and 251, figs. 2, 3; Dresser, ii. p. 389, pl. 59; Seebohm, Cat. B. Br. Mus. v. p. 27; *S. leucopogon*, Meyer, Taschenb. Deutsch. Vogelk., iii. p. 91; Gould, B. of E. pl. 124.

Babillarde subalpine, French; *Sterpazzolina*, Ital; *Cagachin*, Span.

♂ *ad.* (Greece). Upper parts plumbeous ash darker on the crown, sides of the head and neck, wings and tail blackish brown, the former with lighter margins; outer tail-feather white washed with brown at the tip, the next marked with white at the tip; throat and upper breast rich

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ferruginous chestnut; a white line from the base of the bill bordering the red on the throat; rest of the under parts white, washed with pale rufous, the flanks with ashy grey; bill dark horn, yellowish at the base of the lower mandible; legs fleshy brown; iris brown, the edge of the eyelids reddish. Culmen 0·5, wing 2·45, tail 2·15, tarsus 0·75 inch. The female lacks the red on the throat, has the upper parts ashy brown and the under parts buffy white, the flanks and sides of the breast washed with buffy brown.

Hab. Southern Europe and north Africa east to Palestine and probably Persia, and west to the Canaries.

In general habits it resembles the Whitethroat, inhabiting the low bushes on the plains, grass covered plains, and grain fields. Its flight is low and weak, but it moves about actively amongst the bushes. Its call-note is low and harsh and its song is short and hurried but melodious. Its nest is constructed of dry grass-bents, lined with fine roots, and a little plantcotton and is usually placed on a low bush. Its eggs 4 or 5 in number are deposited in April or May and resemble richly coloured varieties of the Dartford Warbler which have the ground colour white.

120. Bowman's Warbler.

SYLVIA MOMUS.

Sylvia momus, Hempr. and Ehr. Symb. Phys. Aves, fol. b. b. (1829); Dresser, ii. p. 407, pl. 63; *S. bowmani*, Tristr. Ibis., 1867, p. 85; *S. rubescens*, Blanf., Ibis., 1874, p. 77; id. in E. Pers. ii. p. 177, pl. xii.; *S. mystacea*, Seebohm (nec. Ménétr.), Cat. B. Br. Mus. v. p. 20 (partim).

♂ *ad.* (Jericho). Differs from *S. melanocephala* in having the upper parts much paler and greyer, the black crown sharply separated from the grey on the hind neck; under parts white washed with vinous pink on the breast and flanks; legs brown; bill dusky above, pale below; iris yellow, edge of the eyelid red. Culmen 0·5, wing 2·15, tail 2 2 tarsus 0·75 inch. The female is much paler than that of *S. melanocephala*, has the upper parts dull reddish brown with an olivaceous tinge, the under parts white slightly tinged with pink, and the breast and flanks faintly washed with pale vinous buff.

Hab. Palestine, Syria, and Asia Minor; wintering in Nubia and possibly in Abyssinia.

In habits it does not differ from *S. melanocephala*, but affects luxuriantly wooded localities whereas that species prefers the

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open scrub. Its nesting-habits, nest, and eggs are, so far as I can ascertain, as yet unknown.

Melizophilus rothschildi, Madarasz (Termesz Füsetek, 1901, p. 351), from Palestine, of which I have seen the type, appears to me to be very closely allied to, if separable from this species.

121. SARDINIAN WARBLER.

SYLVIA MELANOCEPHALA.

Sylvia melanocephala (Gmel.), Syst. Nat. 1, p. 970 (1788); (Gould), B. of E. ii. pl. 123; Dresser, ii. p. 401, pl. 62; Seebohm, Cat. B. Br. Brit. Mus. v. p. 29.

Fauvette mélanocéphale, French; *Tutinegra dos vallados*, Portug.; *Palmerilla*, Span.; *Occhio rosso*, Ital.

♂ *ad.* (Turkey). Upper parts dark slate-grey, shading into jet black on the nape, head, and ear-coverts; quills blackish externally narrowly, and wing-coverts more broadly margined with slate-grey; tail rounded, black, the outer feather with the outer web and tip white, the second and third also tipped with white; under parts white, the breast, flanks, and under wing-coverts washed with blue-grey; bill brownish horn, yellowish at the base of the lower mandible; legs dark brown; iris orange-red, the edge of the eyelid vermilion. Culmen 0·52, wing 2·15, tail 2·35, tarsus 0·82 inch; first primary 0·95 inch less than the second, the third longest, the fourth nearly equal. The female has the upper parts brownish grey, the head faintly tinged with slate-grey, the chin, throat, and centre of the abdomen white, the rest of the under parts dull greyish brown. The young bird scarcely differs from the female.

Hab. The Mediterranean area, from Portugal, Spain, and S. France to Asia Minor and Palestine; wintering in North Africa.

Inhabits both the plains and hills in bushy and scrub-covered localities, and is partial to cactus thickets and gardens. It skulks and creeps about amongst the bushes, and is not easy to be seen. It feeds chiefly on insects but also on fruit and the seeds of the pepper-tree. Its usual call-note is loud and harsh, resembling the winding of a clock, but it has another note, resembling the syllables *chuck, chuck, chuck*, and its song is a low rather melodious warble. When flying the tail is spread, but is closed when it alights. Its nest is placed in a bush, usually an evergreen, three or four feet from the ground, and is constructed of fine bents, rootlets, and a little cottony substance, and lined with fine roots and a few hairs. The eggs vary greatly, being either like those of a Whitethroat with

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clearer and darker markings, creamy-white blotched with sandy-brown or freckled with reddish, or white with violet-grey shell markings and dark red spots. In size they average about 0·61 by 0·55, and are deposited from the end of April to the middle of June.

122. BLACKCAP.

SYLVIA ATRICAPILLA.

Sylvia atricapilla (Linn.), Syst. Nat. i. p. 332 (1766); Hewitson, i. p. 126, pl. xxxiv. figs. 1, 2; Naumann, ii. p. 492, Taf. 77, figs. 2, 3, Taf. 368, figs. 1, 2; (Gould), B. of E. ii. pl. 120; (id.) B. of Gt. Brit. ii. pl. 60; Newton, i. p. 418; Dresser, ii. 421, pl. 66; Saunders, p. 47; Lilford, iii. p. 56, pl. 28; Seebohm, Cat. B. Br. Mus. v. p. 23.

Fauvette à tête noire, French; *Tutinegra real*, Portug.; *Pulverilla*, Span.; *Capinera*, Ital.; *Mönch*, German; *Zwartkop*, Dutch; *Munkefugl*, Dan.; *Sorthætte*, Norweg.; *Svarthufvade-sångare*, Swed.; *Mustapääkerttu*, Finn.; *Tschernogolovka*, Russ.

♂ *ad.* (England). Crown glossy black; upper parts generally ashy brown washed with bluish on the nape and rump; wings dark brown, externally margined with brownish ash; tail uniform ashy brown; under parts ashy grey, the chin, abdomen, under tail-coverts and under wing-coverts white; bill dark horn; legs plumbeous; iris brown. Culmen 0·45, wing 2·95, tail 2·45, tarsus 0·85 inch. The female has the crown rusty red, the upper parts browner without any trace of ashy blue, and the under parts ashy brown, where in the male they are ashy grey. In the winter the upper and under parts are tinged with buffy brown.

Hab. Europe, from North Africa to about 66° N. Lat., in Scandinavia, and from the Azores and Canaries to the Ural range and Persia, wintering in Africa as far south as Senegal, Nubia, and Abyssinia. It has once been recorded from Siberia; Great Britain north to Ross-shire, rarer in Ireland.

Frequents woods, groves, and gardens, avoiding open places, and creeps about amongst the foliage being far less at home there than on the ground. Its call note resembles the syllables *tack, tack*, and its alarm note is a low harsh *sharr*. Its song is rich and sweet, not much below that of the Nightingale in melody, and is generally uttered from some elevated perch. It feeds chiefly on insects, but also on fruit and berries. The nest is placed in a bush or low tree, and is loosely constructed of grass, straws, and rootlets, and lined with fine bents and horse-hair. The eggs are subject to considerable variation, but there are generally two forms, the one resembling the eggs of the

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Garden Warbler, and the other having the ground colour and clouding pinkish, and the markings reddish-brown. In size they average about 0·73 by 0·57. *Sylvia heinekeni* from Madeira is merely a melanism of this species.

123. Orphean Warbler.

SYLVIA ORPHEA.

Sylvia orphea, Temm. Man. d'Orn. p. 107 (1815); Hewitson, i. p. 133, pl. xxxv. fig. 3; Naumann, ii. p. 445, Taf. 76, figs. 3, 4; (Gould), B. of Gt. Brit. ii. pl. 61; Newton, i. p. 423; Dresser, ii. p. 411, pl. 64; Seebohm. Cat. B. Br. Mus. v. p. 14; Saunders, p. 45; Lilford, iii. p. 57, pl. 29.

Fauvette orphée, French; *Rosinyol masearat*, Span.; *Bigia grossa*, Ital.

♂ *ad.* (Spain). Crown and sides of head extending below the eye black, paler on the nape; upper parts ashy grey with a brownish tinge; wings blackish brown, externally paler margined; tail blackish, the external feather white on outer web and along the middle of the inner web; the next two with an apical white spot; under parts white, the breast and flanks tinged with vinous grey; under wing- and tail-coverts and lower flanks pale reddish grey; upper mandible black, the lower bluish with black tip; legs brownish plumbeous; iris bright sulphur yellow. Culmen 0·71, wing 3·1, tail 2·6, tarsus 0·9 inch. The female differs merely in being duller and having less black on the head. The young bird is paler and browner, and has the black on the head replaced by lead grey.

Hab. Southern Europe and North Africa as far north as Luxemburg, and as far east as South Russia and Greece, where it meets the eastern form; has been twice recorded from England; winters in Central Africa.

In its habits it is restless and active but somewhat shy. Its food consists chiefly of insects, but it feeds also on berries and fruit. Its song is louder and harsher than that of the Blackcap, consisting both of clear flute-like notes and also harsh ones like those of the Reed-Warbler. It frequents bushes and trees, and breeds late in April or in May, placing its nest on bushes and also on trees at a considerable height above the ground. The nest is composed of coarse bents and plant-stems lined with fine bents and plant cotton, and the eggs, 4 or 5 in number, are white with the faintest sea-green or bluish tinged, spotted and blotched with pale purplish grey shell markings, and blackish or dark-reddish brown surface spots, and in size vary from 0·75 by 0·6 to 0·83 by 0·63.

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124. Subsp. Sylvia Jerdoni.

Sylvia jerdoni (Blyth), I. As. Soc. Beng. xvi. p. 439 (1847); Blanf. E. Pers. ii. p. 172; Seebohm, Cat. B. Br. Mus. v. p. 16.

♂ Differs from *S. orphea* merely in having a larger bill, and the under parts are whiter. Culmen 0·77 to 0·85, wing 3·15 to 3·20, tail 2·67 to 2·89, tarsus 0·95 to 1·02 inch.

Hab. Montenegro, Dalmatia, Greece, Asia Minor and Palestine to Turkestan and Persia in summer, wintering in Arabia and the plains of India as far as Trinchinopoly in the south, and Mánbhoom in Chutia Nagpur in the east.

In habits and nidification it does not differ from *S. orphea*, but its eggs are a trifle larger. It is merely an eastern form of *S. orphea*.

125. Rüppell's Warbler.

SYLVIA RUEPPELLI.

Sylvia rueppelli, Temm. Pl. Col. 245, fig. 1 (1823); (Gould), B. of Eur. ii. pl. 122; Dresser, ii. p. 417, pl. 65; Seebohm, Cat. B. Br. Mus. v. p. 12.

♂ *ad.* (Asia Minor). Crown, lores, region round the eye, chin, and throat jet-black; upper parts otherwise blue grey; under parts white with a rose tinge; wings and tail blackish, the former margined with whitish; outer rectrix white marked with black at the base; the next two tipped with white; a white streak from the base of lower mandible extending backwards; flanks washed with blue grey; bill blackish brown, yellowish at base of lower mandible; legs pale brown; iris dark brown. Culmen, 0·58, wing 2·75, tail 2·58, tarsus 0·8 inch. The female lacks the black on the head and throat, and is duller and browner in colour; the young bird resembles the female but is browner and duller, and the secondaries are margined with dull rufous. In the winter the male is browner and has the black tipped with dirty white, and the under parts washed with greyish sandy brown. In very old females the crown is brownish black, and the throat marked with black.

Hab. Greece, Asia Minor, Palestine and Algeria, wintering in North Africa as far south as Nubia and Abyssinia.

In habits it is said to be sprightly and active, though not so lively as many of its congeners. It frequents bush-covered localities, both near water and in dry, almost desert places, and feeds on insects of various kinds. Its call-note resembles that of the Sardinian Warbler but I do not find any description of its song. It breeds in April or May and places its nest, which

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is neatly constructed of dry grass-bents and lined with hair, on a bush. The eggs resemble those of the Spectacled Warbler but are larger, measuring 0·75 by 0·57 and are greyish white marked with greyish brown blurred spots, giving the egg a marbled appearance.

126. Palestine Warbler.

SYLVIA MELANOTHORAX.

Sylvia melanothorax, Tristram, Ibis. 1872, p. 296 ; Dresser, ii. p. 399, pl. 61 ; Lilford, Ibis. 1889, p. 319 ; Seebohm, Cat. B. Br. Mus. v. p. 28.

♂ *ad.* (Cyprus). Upper parts as in *S. melanocephala* but rather darker ; wings blackish, externally margined with dull white ; under parts ashy grey, but throat and breast black with whitish grey margins to the feathers ; bill dark brown, pale bluish at base of lower mandible ; legs fleshy yellow ; iris reddish, the ring round the eye red. Culmen 0·55, wing 2·35, tail 2·42, tarsus 0·75 inch ; first quill about 0·2 longer than the coverts, second shorter than the third, fourth longest. The female resembles that of *S. melanocephala*, but the head is marked with blackish ; under parts white ; flanks washed with greyish brown ; throat and breast spotted with black.

Hab. Palestine, Syria, Asia Minor, and Cyprus, where it appears to be a resident.

Frequents localities covered with scrubby vegetation near the sea and to an altitude of 1700 feet and in its habits resembles both *S. melanocephala* and *Melizophilus undatus*, frequenting dense lentiscus coverts and flitting with a jerky flight from bush to bush. Its note is short and clicking, but I do not find any description of its song. It certainly breeds in Cyprus but its nest and eggs are unknown.

MELIZOPHILUS, Leach, 1876.

127. Dartford Warbler.

MELIZOPHILUS UNDATUS.

Melizophilus undatus, (Bodd.), Tabl. Pl. Enl. p. 40 (1783) ; Hewitson, i. p. 143, pl. xxxvii. ; Newton, i. p. 398 ; Dresser, ii. p. 441, pl. 69 ; Saunders, p. 55 ; Lilford, iii. p. 48, pl. 24 ; *S. provincialis*, (Gmel.) Syst. Nat. i. p. 958 (1788) ; (Gould) B. of E. ii. pl. 129 ; (id.) B. of Gt. Brit. ii. pl. 59 ; (Seebohm) Cat. B. Br. Mus. v. p. 31 ; *S. dartfordiensis*, Lath. Gen. Synop. Suppl. i. p. 287 (1790).

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Pitchou Provençal, French; *Colorin, Caganchina*, Span.; *Magnanina*, Ital.

♂ *ad.* (England). Upper parts blackish grey, the crown washed with slate and the back with brown; quills and tail blackish brown, edge of the wing white and outer tail-feathers edged and tipped with dull white; centre of abdomen white, the rest of the under parts chestnut-red; under wing and tail-coverts slate grey; throat marked with silvery grey; sides of head slate-grey; bill blackish, base of lower mandible yellowish; legs reddish brown; iris orange yellow, edge of eyelid bright yellow. Culmen 0·5, wing 2·1, tail 2·7, tarsus 0·75 inch; second quill equal to seventh; tail graduated. The female is dull and paler and has the under parts much paler, and the young are darker above, and have the under parts dull grey washed with yellowish buff, the legs yellowish, and the iris yellowish brown.

Hab. Resident in England as far north as Suffolk, resident also in some parts of France, in Spain, Portugal, Italy, Sicily, Sardinia, Palestine, and North Africa; very rare in Greece, and is said to occur also in Corsica.

Frequents open ground covered with bushes, in England furze-covered commons and is very shy and secretive in its habits. Exceedingly active, it creeps about in the dense brush-work like a mouse. Its flight is quick and jerky, and when undisturbed it frequently perches on the topmost spray of a bush. Its call note resembles the syllables *pit-it-chou* or when disturbed it utters a harsh *cha, cha*, and its song is somewhat varied and hurried. The nest is placed in a bush near the ground and is sometimes firmly and at others more loosely constructed of grass-bents lined with wool or hair, and the eggs 4 to 6 in number are French white or greenish white marked with hair brown or greenish brown, the markings in some being collected chiefly at the larger end, and in others closely distributed all over the surface. In size they average about 0·66 by 0·51 inch, and are usually deposited from late in April to June.

128. Tristram's Warbler.

MELIZOPHILUS DESERTICOLA.

Melizophilus deserticola Tristram, Ibis. 1859, p. 58; Dresser, ix. p. 69, pl. 649; (Seebohm) Cat. B. Br. Mus. v. p. 32, pl. iii; Koenig, J. f. O. 1896, Taf. 7, (eggs).

♂ *ad.* (N. Africa). Crown neck and upper parts ashy plumbeous, the rump washed with sandy buff; wings and tail blackish, the former margined

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with rufous buff; external tail-feathers white, except at the base; under parts pale chestnut, the middle of the abdomen whitish and an indistinct white line borders the plumbeous ash on the sides of the head and crosses the chin; upper mandible light brown, lower mandible bright yellow; legs pale lemon yellow; iris bright yellow. Culmen 0·45, wing 2·10, tail 2·20, tarsus 0·75 inch. The female differs only in being paler especially on the under parts. In winter the upper parts are washed with sandy buff, the rufous margins on the wings are broader and the under parts are paler.

Hab. North-western Africa where it breeds in Algeria, passing the winter in the southern Sahara.

In general habits it resembles the Dartford Warbler frequenting bush-covered localities. Dr. Koenig found it breeding in the Aures mountains in May. Its nest is placed in a bush, usually a rosemary, near the ground and is closely and firmly constructed of vegetable bents and fibres, and the eggs usually 4 in number resemble those of the Dartford Warbler being spotted and dotted with olivaceous on a pale green ground and in size average 16 by 13 millimetres.

129. Marmora's Warbler.

MELIZOPHILUS SARDUS.

Melizophilus sardus, (Marm.) fide Temm. Man. d'Orn. i. p. 205 (1820); (Gould) B. of Eur. ii. pl. 127; Dresser, ii. p. 447, pl. 70; (Seebohm) Cat. B. Br. Mus. v. p. 35.

Pitchou sarde, French; *Magnanina sarda*, Ital.

♂ *ad.* (Sardinia). Upper parts dark slate-grey, blackish on the crown and sides of head; wings and tail blackish with slate-grey margins, the outer rectrix externally margined with white; under parts dull slate-grey, the abdomen dull white laterally washed with brown; feathers on chin and throat with whitish margins; bill dark horn, the lower mandible yellow at the base; legs yellowish brown; iris brown, edge of eyelid red. Culmen 0·4, wing 2·12, tail 2·05, tarsus 0·8 inch. The female has the upper parts browner and duller, and the under parts dull brownish slate-grey with a white spot in the centre of the abdomen. The young bird is distinguishable from that of *M. undatus* in having the upper parts paler and lacking the rusty brown tinge, and the under parts are conspicuously paler and whiter.

Hab. Portugal, the Balearic Isles, Corsica, Sardinia, and Sicily, has been obtained in the peninsula of Sinai, and is said by Loche to have occurred in Algeria. It has also been said to

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have occurred in Greece and Palestine, but these records are open to doubt.

In general habits it resembles its congener *M. undatus*, but its song differs somewhat in not being so grating and is said to be very characteristic; its call-note is a single short *tick*. Its nest resembles that of *M. undatus* but is more loosely constructed of dried bents and lined with horsehair and a feather or two. Its eggs, which are deposited in June or July, are dull greenish white clouded and blotched with oil-green and with a black spot or scratch or two.

LEPTOPŒCILE, Severtz, 1873.

130. Severtzoff's Warbler.

LEPTOPŒCILE SOPHIÆ.

Leptopœcile sophiæ, Severtz. Tur. Jevot. pp. 60, 135, pl. viii. figs. 8, 9, (1873); Gould, B. of Asia, pl. xxviii.; Gadow, Cat. B. Brit. Mus. viii. p. 86; Pleske, Prjevalsky's Reisen. Vögel. ii. p. 85, Taf. vi. fig. 3, 4; Oates, F. Brit. Ind. Birds i. p. 246.

♂ *ad.* (Turkestan). Forehead and a broad supercilium buffy white; crown chestnut, slightly tinged with cobalt; back and wing-coverts bluish grey; rump rich cobalt-blue; upper tail-coverts duller; wings and tail brown externally washed with cobalt, external primary with the outer web white; sides of head and under parts vinaceous chestnut richly washed with bright cobalt; centre of abdomen buffy white; bill black; legs blackish brown; iris red. Culmen 0·4, wing 1·95, tail 2·1, tarsus 0·7 inch; first quill large, 0·54 shorter than the second which is a little shorter than the tenth, fourth and fifth equal and longest. The female has the crown brown, the blue confined to the rump except that the back is a little tinged with blue, and the under parts are buffy grey. The young bird resembles the female but has the crown chestnut-brown; the under parts are warmer in tinge, and the throat and flanks are slightly marked with blue.

Hab. Turkestan east to the mountains of Tibet and the province of Kansu. Examples from Tibet are as a rule richer and deeper coloured than from Turkestan, and again those from the bare desert localities are paler.

Is a resident throughout its range inhabiting the mountains to an altitude of 13,000 feet where it frequents dense bush-covered localities, being less seldom found amongst trees. Its call-note is a low chirp, but I do not find any record of its possessing any song worthy of the name. Prjevalsky found an empty nest placed at an altitude of about seven feet in a juniper, which was round, with the entrance hole at the side near the

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top, and constructed of moss, sheep's wool and plant cotton, and lined with the soft feathers of *Crossoptilon auritum*. Its eggs are as yet unknown. Mr. Pleske (op. cit. p. 93 taf. vi. fig. 5) separates a form which has the under parts uniform in colour, under the name of *Leptopœcile obscura*, Prjev., but I have not had an opportunity of examining a specimen and doubt its specific rank.

LOPHOBASILEUS, Prjev., 1887.

131. Prjevalsky's Crested Warbler.

LOPHOBASILEUS ELEGANS.

Lophobasileus elegans Prjevalsky, Nov. vid. Ptitz. Centr. As. Zap. Imp. Akad. Na. Vol. iv. p. 77 (1887); Pleske, Prjevalsky's Reisen, Vögel. ii. p. 97, Taf. vi. figs. 1, 2.

♂ *ad.* (Chuanche). Crown and a long crest white, on the centre of the crown washed with lilac grey; sides of neck and head to above the eye, nape and forepart of back rich chesnut; rest of the back, rump and upper tail-coverts rich verditer blue; wings and tail blackish brown, externally margined with blue; under parts warm buff, the throat and flanks washed with pale chesnut; bill dark brown; legs pale brown; iris red. Culmen 0·95, wing 2·1, tail 1·8, tarsus 0·8 inch; first primary long, 0·6 shorter than the second which is about equal to the secondaries, fifth and sixth longest. The female has the crown grey bordered by blackish grey, the back warm fulvous, the rump dull blue, sides of the head, the throat and abdomen white, and the flanks warm reddish buff.

Hab. The mountain ranges of the upper Chuanche, south of the Koh-nor.

Inhabits exclusively the conifer woods in the mountains at an altitude of 7,500 to 11,000 feet, and associates with Golden-crested Wrens and *Pœcile affinis*. Its usual note is low, but it also utters a shrill note like the call note of a Wren. Its nest and eggs are as yet unknown.

REGULUS, Koch, 1816.

132. Golden-Crested Wren.

REGULUS CRISTATUS.

Regulus cristatus, Koch. Baier. Zool. p. 199 (1816); Gould, B. of Gt. Brit. ii. pl. 69; Newton, i. p. 449; Dresser, ii. p. 453, pls. 71, 72, fig. 2; Gadow, Cat. B. Br. Mus. viii. p. 80; Oates, F. Brit. Ind. Birds, i. p. 344; Saunders, p. 57; Lilford, iii. p. 74, pl. 37; *R. flavicapillus*, Naumann, iii. p. 968, Taf. 93, figs. 1, 2; *R. auricapillus*, Meyer, Taschenb. Deutsch. Vögelk. iii. p. 108 (1822); Hewitson, i. p. 146, pl. xxxviii. figs. 1, 2.

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Roitelet ordinaire, French; *Reyezuelo*, Span.; *Regolo*, Ital.; *Goldhähnchen*, German; *Goudhantje*, Dutch; *Gultoppet-Fuglekonge*, Dan.; *Fuglekonge*, Norweg.; *Kungsfågel*, Swed.; *Hippiainen*, Finn.; *Kovolek jeltovolosui*, Russ.

♂ *ad.* (Germany). Forehead greyish brown; frontal line black merging into a broad black streak on each side of the head enclosing a yellow coronal patch deepening into orange in the centre, upper parts olive-green; wing and tail blackish brown margined with yellowish green; secondaries and wing-coverts tipped with white, and a black patch at base of secondaries; under parts greyish white, tinged with yellow; bill blackish brown; legs brown; iris hazel. Culmen 0·45, wing 2·1, tail 1·65, tarsus 0·7 inch. The female is duller in colour, and the crown is lemon-yellow, and the young resemble the female but lack the yellow on the crown which is blackish brown and olivaceous.

Hab. From Lapland and Northern Siberia to North Africa and the Himalayas, and from the Azores and western Europe to Eastern Siberia China and Japan. Azorean examples are said to have the bill larger than European birds and have been separated by Mr. Seebohm (Brit. B., 1, p. 454) under the name of *R. cristatus* var. *azoricus*. In central Asia and the Himalayas they have the nape tinged with greyish brown (var. *himalayensis* Blyth) and in Japan, where it is said to be resident, the nape is more decidedly greyish brown in tinge (var. *japonicus* Bp.) but none of these forms are sufficiently distinct to be entitled to even sub-specific rank.

In general habits it is not shy and in winter may be found consorting with Titmice and Creepers. It frequents well wooded districts and affects conifer growth. It is active and restless like the Titmice, and feeds chiefly on insects which it obtains on trees and bushes; flies, and occasionally, it is said, seeds form a portion of its diet. Its note is a shrill feeble cry not unlike that of a shrewmouse, and in the spring the male has a low but not unmelodious song. Its nest is suspended under the small outside branch of a fir or yew tree and is constructed of moss, well lined with feathers, and the eggs 5 to 9 or 10 in number are usually deposited in May, and are ochreous white, faintly reddish in tinge when unblown, very minutely dotted with pale ochreous brown at the larger end and measure about 0·51. by 0·41.

133. Canarian Goldcrest.

REGULUS TENERIFFÆ.

Regulus teneriffæ, Seebohm, Brit. B. i. p. 459 (1883); *R. satelles*, Koenig, I.f.O. 1889, p. 263, 1890, Taf. v. fig. 1, Taf. viii. fig. 9, (eggs).

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♂ *ad.* (Teneriffe). Differs from *R. cristatus* merely in having the black streak bordering the crown broader and continued across the forehead and the frontal line bordering the bill greyish white. Culmen 0·45, wing 2·05, tail 1·5, tarsus 0·75 inch.

Hab. The Canaries where it is resident.

Differs in no respect in its habits and nidification, and its eggs closely resemble those of *R. cristatus*.

134. Fire-Crested Wren.

REGULUS IGNICAPILLUS.

Regulus ignicapillus, (Brehm.) in Temm. Man d'Orn. i. p. 232 (1820); Hewitson, i. p. 148, pl. xxxviii. fig. 3; Naumann, iii. p. 983, Taf. 93, figs. 4, 5, 6; Gould, B. of E. ii. pl. 148, fig. 2; id., B. of Gt. Brit. ii. pl. 70; Newton, i. p. 456; Dresser, ii. p. 459, pl. 72, fig. 1, 73, fig. 1; Gadow, Cat. B. Br. Mus. viii. p. 83; Saunders, p. 59; Lilford, iii. p. 76, pl. 38.

Roitelet à triple bandeau, French; *Estrellinha*, Portug.; *Estrelliña*, Span.; *Fiorrancino*, Ital.; *Fuerköpfiges-Goldhähnchen*, German; *Vuurgoudhaantje*, Dutch; *Korolck-crasnovolosey*, Russ.

♂ *ad.* (Germany). Differs from *R. cristatus* in having the forehead greyish white, above which is a black line joining the sides of the crest where it forms a broad streak on each side of the crown; from the forehead above the eye to the nape is a greyish white streak; a blackish streak passes through the eye from the lores which are blackish, and a third dark streak from the base of the lower mandible downwards and backwards; crown rich flame orange narrowly bordered with yellow; sides of the neck below the nape rich golden green. Culmen 0·42, wing 2·12, tail 1·75, tarsus 0·7 inch. The female is rather duller and has the crown bright lemon-yellow; the young bird resembles the female but is duller in colour, and the nestling lacks the yellow and the black stripes on the head and has the crown like the back but rather darker.

Hab. Southern and Central Europe, north to Denmark; is said to be a resident in Algeria and has been recorded from as far east as Asia Minor where it is common in the Taurus range; is only a rare visitant to Great Britain and has not yet been met with in Ireland.

In general habits it differs but little from the Goldcrest but is if anything rather more silent. The nest resembles that of the Goldcrest and is generally placed in a fir tree at some altitude, but sometimes low down and even in a bush. The eggs which are deposited early in May may readily be distinguished from those of the Goldcrest in being reddish and not

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ochreous in tinge and sometimes the minute red dots are collected round the larger end. The number of eggs is usually 8 or 9, but as many as 11 have been found in one clutch.

135. Madeiran Gold-crest.

REGULUS MADERENSIS.

Regulus maderensis Vernon Harcourt, P.Z.S. p. 153 (1854) ; Dresser, ii. p. 465, pl. 73, fig. 2 ; Koenig, J.f.O. 1890, p. 278, Taf. viii. fig. 8 (eggs).

Abibe, Portug ; *Bisbis* in Madeira.

♂ *ad.* (Madeira). Differs from *R. cristatus*, but has the crown less richly coloured, the pale streaks above and below the eye shorter, the sides of head and neck, the nape and fore-part of the back rich slaty ash, the tarsus longer and the feet larger. Culmen 0·5, wing 2·2, tail 1·8, tarsus 0·8 inch. The female is duller and has the crown paler.

Hab. Madeira.

Frequents the Laurel groves and tree heaths and in its general habits does not differ from *R. cristatus*. Its nest resembles that of our Goldcrest but is rather larger and the eggs, usually 4 in number, are white with a wreath of red dots almost confluent round the larger end, and a few paler red dots scattered over the rest of the surface, and measure about 0·54 by 0·43.

PHYLLOSCOPUS, Boie, 1826.

136. Willow-Wren

PHYLLOSCOPUS TROCHILUS.

Phylloscopus trochilus, (Linn.) Syst. Nat. 1. p. 338 (1766) ; (Hewitson), i. p. 137, pl. 36, figs. 1, 2 ; (Naumann), iii. p. 568, Taf. 80, fig. 3 ; (Gould), B. of E. ii. pl. 131 ; (id.) B. of Gt. Brit. ii. pl. 65 ; Newton, i. p. 432 ; Dresser, ii. p. 491, pls. 75, fig. 2, 76, fig. 2 ; Saunders, p. 69 ; Lilford, iii. p. 64, pl. 32 ; Seebohm, Cat. B. Br. Mus. v. p. 56.

Pouillot-fitis, French ; *Folosa*, Portug.; *Almendrita*, Span.; *Luiqiallo*, Ital.; *Fitis Laubvogel*, German ; *De Fitis*, Dutch; *Lövsanger*, Danish and Norweg.; *Lofsångare* Swed. ; *Uunilintu, Permalinla*, Finn. ; *Panoschka obniknovennaya* Russ.

♂ *ad.* (England). Upper parts greyish brown tinged with pale green ; the rump more yellowish green ; under parts washed with yellowish, breast and flanks tinged with buff ; superciliary streak greenish yellow ; bill, legs, and iris brown. Exposed part of bastard or first primary 0·58, the

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second intermediate between the 5th and 6th, the third longest, the primaries externally emarginate as far as the 5th. Culmen 0·42, wing 2·65, tail 2·15, tarsus 0·82 inch. The female is rather smaller. The autumn plumage is rather yellower. In the high north the plumage is paler, occasionally almost devoid of yellow.

Hab. Europe as far north as the North Cape, and Asia as far East as the Yenesei valley; winters in southern Europe, Africa as far south as the Transvaal and the Cape, and also in Persia.

Frequents woods groves and gardens and is active and lively in its movements, continually flitting about amongst the foliage in search of its food, which consists of insects of various kinds. Its call-note is soft and low, *weed, weed,* or *whit whit,* and its song is simple but pleasing. Its nest which is semi-domed, constructed of dry grasses moss or fern and lined with hair, wool, and feathers, especially the last, is placed on the ground, and the eggs from 5 to 7, occasionally even 9 in number, are white, spotted and marked with pale red and measure about 0·6 by 0·45 inch. They are usually deposited late in April, and a second brood is generaly raised in the same season.

137. Wood-Wren.

PHYLLOSCOPUS SIBILATRIX.

Phylloscopus sibilatrix, (Bechst.) Naturforscher, xxvii. p. 47 (1793); (Hewitson), i. p. 135, pl. 36, fig. 3; (Naumann), iii. p. 556, Taf. 80, fig. 2; (Gould), B. of Gt. Brit. pl. 67; Newton, i. p. 427; Dresser, ii. p. 497, pl. 77 fig. 2: Saunders, p. 71; Lilford, iii. p. 62, pl. 31; Seebohm, Cat. B. Br. Mus. v. p. 54.

Pouillot-siffleur, French; *Folosa,* Portug.; *Lui-verde,* Ital.; *Wald-Laubvogel,* German; *Fluiter,* Dutch; *Grön-Lövsanger,* Dan.; *Grönsångara,* Swed.; *Vieheriäkerttu,* Finn.; *Beresovka, Tjukalka,* Russ.

♂ *ad.* (England). Upper parts olive-green tinged with sulphur-yellow, the crown and rump yellower; quills and tail slaty brown externally margined with yellow; forehead and superciliary streak bright sulphur-yellow; sides of head, chin, throat, breast, flanks and edge of wing sulphur-yellow; rest of the under parts white; bill, legs, and iris brown. Culmen 0·5, wing 3·0, tail 2·0, tarsus 0·72 inch. First primary short and narrow, 1·8 shorter than the second which is a trifle longer than the fifth, the third longest. The female is a trifle smaller than the male, and the young bird is rather yellower than the adult.

Hab. Europe from Southern Scandinavia to North Africa, and east to the Ural; in winter as far south as the Gold Coast; Great Britain and Scotland, but rare in Ireland.

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Inhabits woods where the trees are high, either of deciduous trees or where conifers are intermixed with them, and frequents the tops of the trees or the scattered lower branches. It feeds on insects which it obtains amongst the foliage or sometimes on the ground, and frequently captures flies on the wing. It appears to prefer damp localities. Its call-note resembles that of the Willow-Wren, and its song which is clear sweet and consists of the syllable *chu* or *chit* uttered four or five times in uccession followed by a characteristic shivering note which may be heard at a considerable distance. Its nest is domed, placed on the ground, very well concealed and constructed of dry grass-bents and a little moss, and lined with finer bents and a few hairs, very seldom with wool or feathers. The eggs, from 5 to 7 in number, are deposited in May or June, and are white minutely spotted and speckled with deep purplish red surface-markings and a few pale purplish grey shell-dots, and in some the markings are collected round the larger end. In size they average about 0·65 by 0·47.

138. Bonelli's Warbler.

PHYLLOSCOPUS BONELLII.

Phylloscopus bonellii (Vieill.), Nouv. Dict. xxviii. p. 91 (1819); Dresser, ii. p. 503, pl. 77, fig. 1, 78; Seebohm, Cat. B. Br. Mus. v. p. 59; *Sylvia nattereri*. Temm. Man. d'Orn. i. p. 227 (1820); (Gould), B. of Eur. ii. pl. 134; *Ph. montanus* (Brehm), Vög. Deutschl. p. 429 (1831); Naumann, xiii. p. 417, Taf. 369, fig. 4.

Becfin-Bonelli, French; *Lui-bianco*, Ital., *Berg-Laubvogel* German.

♂ *ad.* (Italy). Upper parts browner than *Ph. sibilatrix*, rump washed with sulphur-yellow; superciliary streak buffy yellow; under parts white, tinged with pale sulphur-yellow on the breast and flanks, edge of wing and axillaries bright sulphur-yellow. Culmen 0·42, wing 2·7, tail 2·0, tarsus 0·72 inch; first primary longer than in the Wood-Wren, 1·1 inch shorter than the second, which is a trifle longer than the sixth, the third and fourth nearly equal and longest. The female is a trifle smaller than the male.

Hab. Central and Southern Europe, from Portugal to Asia Minor; of occasional occurrence in Northern France; winters in North Africa as far south as Senegal.

In general habits it resembles the Wood-Wren, but affects elevated localities, and is often to be met with in woods on the southern slopes of hills. It inhabits the dense foliage of deciduous trees, and is strictly insectivorous, picking its food

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chiefly from off the leaves. Its call-note is a melancholy *hoied* or *hoiet*, and its song *iiiiii* and *wuit, wuit wuit, wuit*. Its nest is placed on the ground well concealed amongst the herbage, and is constructed of dry grass-bents and a little moss, lined with finer bents, never with hair or feathers. The eggs which are deposited late in May or early in June, from 4 to 6 in number, resemble those of the Wood-Wren but are smaller, and the spots are more profuse and somewhat browner in tinge of colour.

139. Chiffchaff.

PHYLLOSCOPUS COLLYBITA.

Phylloscopus collybita (Vieill.), Nouv. Dict. xi. p. 235 (1817); Newton, i. p. 437; Dresser, ii. p. 485, pls. 75, fig. 1, 76, fig. 1; *Phyll. rufus*, (Bechst.), Orn. Taschenb. i. p. 188 (nec. Bodd.); (Hewitson), i. p. 139, pl. 36, fig. 4; (Naum.), iii. p. 581. Taf. 80, fig. 4; (Gould), B. of Gt. Brit. ii. pl. 66; Seebohm, Cat. B. Brit. Mus. v. p. 60; Saunders, p. 67; *P. minor*, Lilford, iii. p. 68, pl. 34.

Beefin veloce, French; *Lui-piccolo*, Ital.; *Almendrita*, Span.; *Weiden-Laubvogel*, German; *Tjif-tjaf*, Dutch; *Gran-sanger* Dan. and Norweg.; *Gransångare*, Swed.; *Tynnerilintu*, Finn.; *Kusnetschik*, *Penotschkamalaya*, Russ.

♂ *ad.* (Asia Minor). In general colouration of plumage resembling *Ph. trochilus* but duller, the second primary is equal to the 7th, and the quills externally marginate to the 6th inclusive, the third and fourth quills longest; legs dark brown much darker than in *Ph. trochilus*.

Hab. Europe from the Canaries where it is resident, to the valley of the Volga, north to within the Arctic circle; winters in southern Europe, Asia Minor, Persia, and North Africa, as far south as Abyssinia.

In general habits it resembles the Willow-Wren but its movements are quicker and its flight rather swifter. It affects woods and groves both deciduous and conifer, and feeds on insects which it picks off the foliage and sometimes from off the ground, or will catch gnats or flies on the wing. It has been known to feed on small berries. Its alarm note resembles that of the Willow-Wren, but is slightly shriller and not so loud, and its song resembles the syllables *chiff-chaff*, *chiffy-chaffy*, or *cheep-cheep cheep-cheep*. Its nest is placed on the ground or but rarely a little above it, and is semi-domed, constructed of grass-bents, dry leaves, and moss and lined with plant-cotton hair and a profusion of feathers, and its eggs, 5 to 6 in number, are deposited late in May or in June, and are white, spotted and

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dotted with purplish red, and occasionally marked with a few violet-gray shell spots, and measure about 0·52 by 0·42 inch. In south-eastern Europe a small form (*Ph. brehmi* Homeyer) occurs, differing only in being somewhat smaller in size.

140. Siberian Chiffchaff.

PHYLLOSCOPUS TRISTIS.

Phylloscopus tristis, Blyth, J. As. S. Beng. xii. p. 966 (1843); (Gould), B. of Asia, iv. pl. 59; Dresser, ii. p. 477; Sabanäeff, Pozv. sredi Uralya, p. 89 (1874); Seebohm, Ibis, p. 10, 1879; id., Cat. B. Br. Mus. v. p. 63; Oates, F. Brit. Ind. Birds. i. p. 403.

Tyschkan-turgai, Kirghis.

♂ *ad.* (Ural). Resembles *Ph. collybita*, but is smaller, the upper parts are browner and the under parts whiter, and the bill and legs much darker. Culmen 0·44, wing 2·3, tail 1·92, tarsus 0·8 inch; first primary short, only 0·3 longer than the primary coverts, the 2nd 0·3 shorter than the 3rd and a trifle shorter than the 7th, the 3rd, 4th, and 5th nearly equal, the 4th longest. The female is rather smaller, and in the autumn both sexes are browner and duller than in the summer.

Hab. Eastern Europe as far west as the Petchora; northern Asia as far south as Kashmir, but how far east we do not know, except that it breeds in the valley of the Yenesei. In winter it occurs over the whole of India, from Sind to Dacca and south to about the latitude of Bombay.

It differs from the Chiffchaff in having a loud song though poor in quality, and its call note resembles the word *chi-vit*. It breeds in July, building a domed nest of grass, profusely lined with feathers, and lays 5 to 7 white eggs, finely spotted with reddish brown which measure about 0·56 by 0·40 inch.

141. Plain Willow-Warbler.

PHYLLOSCOPUS NEGLECTUS.

Phylloscopus neglectus, Hume, Ibis, 1870, p. 143; Seebohm, Cat. B. Br. Mus. v. p. 131; Pleske, Orn. Ross. ii. p. 412, pl. 3, figs. 3, 4; Dresser, ix, p. 79, pl. 650, fig. 1; Oates, F. Brit. Ind. Birds, ii. p. 406; *P. lorenzi*, Severtzoff, fide Lorenz, Beitr. Orn. Nords. Kauk. p. 28, Taf. ii. fig. 2.

♂ *ad.* (Transcaspia). Upper parts earthy brown, upper tail-coverts paler; under parts white tinged with buff; superciliary streak pale buff; axillaries and under wing-coverts white tinged with buffy yellow; bill, legs, and iris dark brown. Culmen 0·37, wing 2·05, tail 1·65, tarsus 0·75

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inch ; 1st primary long, 0·65 shorter than the 2nd, which is intermediate between the 8th and 9th. The female is a trifle smaller than the male.

Hab. Transcaspia and Turkestan during the summer, wintering in Southern Persia, Baluchistan, Sind, and the Punjab and Doab as far as Agra.

In its general habits it is very shy and cautious, frequenting close foliaged trees, and is therefore difficult to obtain. It breeds in Transcaspia and Turkestan but its nest and eggs are as yet unknown. In Sind a form differing only in being somewhat larger in size (*Ph. sindianus* Brooks, Str. Feath. viii p. 476) is said to be resident.

142. Tickell's Willow-Warbler.

PHYLLOSCOPUS AFFINIS.

Phylloscopus affinis (Tickell), J.A.S. Beng. ii. p. 576 (1833) ; Seebohm, Cat. B. Br. Mus. v. p. 65 ; Pleske, Prjevalsky's Reisen, Vögel, ii. p. 115, Taf. 3, fig. 5 ; Oates, F. Brit. Ind. Birds, i. p. 401.

♂ *ad.* (Himalayas). Upper parts dull olive-brown ; wings and tail dark brown with olive-brown margins ; under parts deep yellow washed with olivaceous on the sides of the neck, breast, and body ; under wing-coverts and axillaries pale yellow ; lores and space behind the eye dark brown ; supercilium deep yellow ; legs greenish brown ; bill brown, lower mandible pale yellow ; iris brown. Culmen 0·44, wing 2·4, tail 1·9, tarsus 0·8 inch ; 1st primary about half the length of the 2nd which is equal to the 9th or 10th. The female is smaller than the male and the nestling is browner and has the under parts less regularly coloured.

Hab. The Himalayas as far west as Kashmir ; Kansu, the Chuanche, the southern Koko-nor and the Burchan Buda mountains and those on the Dy-tschu river ; winters in the plains of India. Prjevalsky says that it breeds in the low gorges of the Keria mountains in Mongolia, but its nest and eggs are unknown.

143. Eversmann's Warbler.

PHYLLOSCOPUS BOREALIS.

Phylloscopus borealis (Blasius), Naumannia, 1858, p. 313 ; (Naumann), xiii. p. 69, Taf. 375, fig. 1 ; Dresser, ii. p. 509, pl. 79 ; (Dybowski), J.f.O. 1872, p. 358 ; Seebohm, Cat. B. Br. Mus. v. p. 40 ; (Oates), F. Brit. Ind. Birds, i. p. 412 ; (Tacz.) F. O. Sib. O. p. 254 ; *P. sylvicultrix*, Swinhoe, Ibis. 1860, p. 53 ; *P. kennicotti*, Baird, Trans. Chic. Acad. Sc. i. p. 279, pl. xxx. fig. 2.

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Talofka, Russ.

♂ *ad.* (Lake Baikal). Upper parts greyish brown tinged with pale green, the rump yellowish green ; wings crossed by two yellowish white bars ; superciliary stripe broad, yellowish ; under parts greyish white the breast and flanks greyer and washed with yellowish ; bill brown the lower mandible paler ; legs brown : iris dark brown. Culmen 0·5, wing 2·7, tail 2·0, tarsus 0·8 inch ; 3rd and 4th primaries longest, 5th much shorter, bastard primary very small the exposed part measuring 0·32. In the autumn the under parts are pale yellow the breast and flanks washed with grey. Sexes alike.

Hab. Northern Norway east through northern and eastern Asia to Alaska, wintering in Burma, Tenasserim, and the islands of the Malay Archipelago; a migrant in Mongolia and China; has occurred in Heligoland.

Frequents non-evergreen woods in dry elevated localities generally in the vicinity of rivers or lakes, and feeds on insects especially mosquitoes, and obtains its food largely amongst the foliage in the treetops. Its call note is a single monotonous *dzit*, occasionally a double note *d-z zit*, and its song resembles the syllables *tsi, tsi, tsi, tsi* uttered in quick succession. It breeds in June, its nest being semi-domed, constructed of moss and dry grass, and lined with finer grass-bents, and is placed on the ground. The eggs 5 or 6 in number are rather larger than those of the Willow-Wren, white and profusely marked with small pale pink spots.

144. Swinhoe's Willow-Warbler.

PHYLLOSCOPUS XANTHODRYAS.

Phylloscopus xanthodryas, Swinh, P.Z.S. p. 296, 1863; David and Oust. Ois. Chine. p. 268; Seebohm, Cat. B. Br. Mus. v. p. 42; *Acanthopneuste lugubris*, (Blyth), Pleske, Prjevalsky's Reisen, Vögel, ii. p. 111.

♂ *ad.* Upper parts olivaceous, yellower on the rump ; under parts greenish yellow, greyer on the breast and flanks ; superciliary stripe well defined ; upper wing-bar obscure and lower bar well defined, axillaries and under wing-coverts pale yellow ; bill, legs, and iris brown. Culmen 0·54, wing 2·8, tail 2·0, tarsus 0·8 inch ; 1st primary 0·55 long, 2nd intermediate between the 5th and 6th, 3rd and 4th longest.

Hab. Kansu and the Upper Chuanche in Mongolia, and Japan; winters in Borneo. Abbé David says that it breeds at Moupin in May but its nest and eggs are not known.

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In its habits it is wild and shy and keeps itself well concealed amongst the foliage. Its song is peculiar, consisting of three clear notes *mi-ré-do*, uttered softly. In the pairing season the males are extremely quarrelsome.

145. Bright Green Willow-Warbler.

PHYLLOSCOPUS NITIDUS.

Phylloscopus nitidus, Blyth, J.A.S. Beng. xii. p. 965 (1843); Pleske, Orn. Ross. ii. p. 172, pl. ii. fig. 2; Dresser, ix, p. 83, pl. 651, fig. 2; (Oates), F. Brit. Ind. Birds, i. p. 413.

♂ *ad.* (India). Crown and upper parts bright green; under parts and superciliary stripe sulphur-yellow; wing crossed by two distinct yellowish bands; bill brown, flesh coloured at base of lower mandible; legs plumbeous brown; iris dark brown. Culmen 0·5, wing 2·4, tail 1·9, tarsus 0·7 inch; 2nd primary shorter than than the 6th.

Hab. The Crimea, Transcaspia, the Caucasus, and the Himalayas, and has once occurred in Heligoland; winters in India as far south as Ceylon.

In general habits it resembles the other species of Willow-Warblers, frequenting woods and groves, feeding on insects which it obtains amongst the foliage, and is lively in its movements and not shy. Its call-note resembles that of *Motacilla flava*, but I do not find any description of its song. It breeds in the Caucasus but its nest and eggs appear to be unknown.

146. Greenish Willow-Warbler.

PHYLLOSCOPUS VIRIDANUS.

Phylloscopus viridanus, Blyth, J.A.S. Beng. xii. p. 967 (1843): Hume and Henders, Lahore to Yarkand, p. 220, pl. xix; Pleske, Orn. Ross. p. 176, Taf. ii. fig. 3; Dresser, ix. p. 87, pl. 651 fig. 1; Seebohm, Cat. B. Br. Mus. v. p. 44; (Oates), F. Brit. Ind. Birds. i. p. 414; Lilford, iii. p. 66, pl. 33; *P. middendorffii*, Meves, Öfv. K. Vet. Ak. Förh. 1871, p. 758, Taf. xv. fig. 1.

ad. (India). Differs from *P. nitidus* in being darker and more olivaceous on the upper parts, the eye-streak is buffy yellow, the wing is crossed by a single dull white band and the under parts are white washed with pale greenish buff. In the autumn the upper parts are greener and the under parts more yellow. Culmen 0·5, wing 2·35, tail 1·75, tarsus 0·75 inch; 2nd primary intermediate between the 7th and 8th, the 3rd, 4th, and 5th longest.

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Hab. The Ural, the Altai, the Himalayas, Turkestan, Yarkand, and Gilgit, wintering in India as far east as Calcutta, and as far south as Ceylon; has been obtained thrice as far west as Heligoland and once in England.

In its habits it resembles *P. nitidus* but is often seen amongst bushes. Its call note is a short *psi, psi*, and its song is said to be a very loud and strong trill. Its nest is domed and is placed on the ground, but its eggs are unknown.

147. Pale-legged Willow-Warbler.

PHYLLOSCOPUS TENELLIPES.

Phylloscopus tenellipes, Swinhoe, Ibis. p. 53, 1860; David and Oust. Ois. Chine, p. 269; Seebohm, Cat. B. Br. Mus. v. p. 46; Oates, B. of Burma, i. p. 81, (id.) F. Brit. Ind. Birds, i. p. 416.

ad. (Burma). Upper parts olive-brown washed with russet on the rump; under parts white washed with greyish buff on the breast, flanks, and under tail-coverts; eye-stripe greyish white, and wings crossed with two buffy white bars; upper mandible dark brown, lower mandible pale; legs pale flesh colour. Culmen 0·5, wing 2·45, tail 2·0, tarsus 0·72 inch; bastard primary 0·5, 2nd equal to the 7th, the 3rd, 4th, and 5th longest. In the summer the plumage is greyer and the wing-bars less distinct, and in the winter the plumage is buffer in tinge.

Hab. Japan, and passes through China on migration, wintering in Burma.

I find nothing on record respecting the habits of this bird, which are probably similar to those of its congeners, and its breeding habits are unknown.

148. Middendorff's Willow-Warbler.

PHYLLOSCOPUS PLUMBEITARSUS.

Phylloscopus plumbeitarsus, Swinhoe, Ibis. p. 330 1861; Seebohm, Cat. B. Br. Mus. v. p. 45; *P. intermedia*, Severtz. Turk. Jevot. p. 125.

ad. (Turkestan). Differs from *P. viridanus* in having two wing-bars. Culmen 0·5, wing 2·2, tail 1·7, tarsus 0·7 inch; 1st primary 0·5 to 0·7 long, the 2nd intermediate between the 7th and 8th or equal to the 8th. The present is a somewhat doubtful species differing but little from *P. viridanus*.

Hab. Asia from Turkestan to southern Siberia, wintering in Cochin China and Burma.

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In its habits it is arboreal, frequenting the dense foliage of trees, feeding on insects which are found on the leaves. Its call-note is double and sibilant. Its nest and eggs are as yet unknown.

149. Large-billed Willow-Warbler.

PHYLLOSCOPUS MAGNIROSTRIS.

Phylloscopus magnirostris, Blyth, J.A.S. Beng. xii. p. 966 (1843); Legge, B. of Ceylon, p. 553; Seebohm, Cat. B. Br. Mus. v. p. 47; Pleske, Prjevalsky's Reisen, Vögel, ii. p. 110; (Oates), F. Brit. Ind. Birds, i. p. 415.

ad. (Kashmir). Upper parts olive-green, head darker; under parts pale yellow washed with grey on the breast and flanks; a well defined eye-streak and two bars on the wings yellowish white; axillaries and under wing-coverts greyish yellow; bill horn-brown; legs flesh colour; iris earth-brown. Culmen 0·55, wing 2·7, tail 2·2, tarsus 0·75 inch; 1st primary large 0·7 long, the 2nd intermediate between the 7th and 8th.

Hab. The Himalayas and as far east as Kan-su, wintering in India as far south as Ceylon and the Andaman islands, and east to Shillong; occurs though rarely, in Burma.

It frequents wooded cliffs or steep rocky banks above water, and is shy and unobtrusive. Its song is said to be shrill, peculiarly melancholy but of singular sweetness, and above a roaring torrent it appears in its element and sings most vigorously. It is known to breed in Kashmir, but its nest and eggs are unknown.

150. Blyth's Willow-Warbler.

PHYLLOSCOPUS LUGUBRIS.

Phylloscopus lugubris, (Blyth), Ann. Nat. Hist. Ser. i. xii. p. 98 (1843); Seebohm, Cat. B. Br. Mus. v. p. 48; Pleske, Prjevalsky's Reisen, Vögel, ii. p. 111; (Oates), F. Brit. Ind. Birds, i. p. 417.

♂ *ad.* (Himalayas). Resembles *P. magnirostris* but is darker and smaller and has the 2nd primary intermediate between the 9th and 10th, the 1st primary being very long, occasionally 0·8 in length, the 4th and 5th longest. Culmen 0·5, wing 2·6, tail 2·1, tarsus 0·75 inch.

Hab. Sikhim in summer and probably in other parts of the Himalayas, wintering in Bengal, Assam, and central Tenasserim, and has been recorded from the Philippines; eastward, it was

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obtained by Colonel Prjevalsky in Mongolia, on the upper waters of the Chuanche in Kan-su where it is he says, common.

In habits it does not differ from its allies. Its nest and eggs are not known.

151. Yellow-Browed Warbler.

PHYLLOSCOPUS SUPERCILIOSUS.

Phylloscopus superciliosus (Gmel.) Syst. Nat. i. p. 975 (1788); Naumann, xiii. pt. ii. p. 74, Taf. 378, figs. 2, 3; Gould, B. of Gt. Brit. ii. p. 68; Newton, i. p, 443; Dresser, ii. p. 469, pl. 74; Seebohm, Cat. B. Br. Mus. v. p. 68; (Oates), F. Brit. Ind. Birds, i. p. 409; Saunders, p. 61; Lilford, iii. p. 70, pl. 35; *Ph. modestus*, auctt. nec. Gould.

Sarnitschka, Chardshan, Jakutsk.

♂ *ad.* (Siberia). Upper parts olive-green; under parts yellowish white; a very indistinct coronal stripe, often absent, greenish grey; superciliary stripe greenish yellow, well defined; wings with two distinct bars; axillaries and under wing-coverts yellow; bill brown, yellowish white at base of lower mandible; legs brownish flesh; iris brown. Culmen 0·45, wing 2·1, tail 1·7, tarsus 0·7 inch; 1st primary short but 0·25 longer than the wing-coverts and 0·9 shorter than the 2nd which is intermediate between 6th and 7th, 3rd and 4th equal and longest. In the autumn the plumage is greener, and in the summer greyer.

Hab. Siberia from the Ob to the sea of Ochotsk, and from the Tschuktchi peninsula through Central Asia to the Himalayas, wintering on the plains of India, Burma, and south China. On passage it occurs west of the Ural, and has been met with on several occasions in Heligoland, Germany, Austria, and Great Britain.

Frequents groves, bush covered localities and gardens, and is not often seen in the true forest. Its call-note resembles the syllables *tiss-yip* and the song is a loud double chirp, which can scarcely be called a song but which is continually uttered. The nest is semi-domed, constructed of grass and moss and lined with finer grass, and lined with hair, and is placed on the ground or in a low bush close to the ground. The eggs 5 or 6 in number are white, with reddish brown surface-spots, and a few purplish grey shell-markings, the spots being frequently collected round the larger end. In size they measure about 0·6 by 0·45 inch. The Himalayan bird has been described as distinct (*P. humei* Brooks) but after a careful examination of a series I cannot endorse this view.

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152. Pallas' Willow-Warbler.

PHYLLOSCOPUS PROREGULUS.

Phylloscopus proregulus (Pall.) Zoogr. Ross. As. i. p. 499 (1811); Hume and Henderson, Lahore to Yark. p. 220; Tacz. J.f.O. 1873, Taf. i. fig. 10 (eggs); Dresser, ix. p. 73, pl. 650, fig. 1; Saunders, p. 63; Lilford, iii, p. 72, pl. 36; Seebohm, Cat. B. Br. Mus. v. p. 71; (Oates), F. Brit. Ind. Birds, i. p. 408; *P. modestus*, (Gould), B. of E. ii. pl. 149; *Ph. chloronotus*, (Hodgs.) MS. Drawings of B. of Nepal, Passeres. pl. 57, fig. 5.

♂ *ad.* (Siberia). Upper parts olive-green, the head darker; rump yellow; under parts white, washed with grey on the flanks; mesial and superciliary stripes sulphur-yellow, well defined; wings crossed by two distinct yellowish white bands; bill brown, basal portion of lower mandible yellowish; legs greenish brown, and dark brown; 1st primary 0·7, shorter than the 2nd, which is equal to or a trifle longer than the 8th, the 4th longest. Culmen 0·4, wing 2·1, tail, 1·5, tarsus 0·67 inch. In the summer it is rather paler and the alar bars less clearly defined.

Hab. Asia from the Lena to Lake Baikal and south to the Himalayas, wintering in India, Burma, and south China; occurs regularly on passage on the western slopes of the Ural, and has occurred once in Heligoland and once in England.

Frequents pine and birch woods and bush covered valleys, and in its general habits has much affinity with the Goldcrest. Its call-note is a shrill prolonged *tsii*, and its song is melodious and varied and very loud for so small a bird. Its nest is placed on the branch of a tree near the stem, is oven-shaped, constructed of grass-bents and moss and lined with feathers and horse or cattle hair and its eggs which are deposited in May or June are white dotted and spotted with violet, ash-grey, and red, the spots being frequently collected round the larger end, and measure 14 by 11 to 15 by 10·5 millimetres (0·59 by 0·41 inch).

The form which breeds in the Himalayas has been separated specifically by Gätke (*Phylloscopus newtoni*) but after a careful comparison of specimens I fail to see even subspecific differences that are constant.

153. Temminck's Willow-Warbler.

PHYLLOSCOPUS CORONATUS.

Phylloscopus coronatus, (Temm. and Schlegel.) Faun. Jap. Aves. p. 48, pl. xviii. (1847); David and Oust. Ois. Chine, p. 269; Seebohm, Cat. B. Br. Mus. v. p. 49; (Oates), F. Brit. Ind. Birds, i. p. 417.

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ad. (Japan). Upper parts greyish olive green, the head darker; mesial stripe irregular and pale greyish yellow; superciliary stripe to the nape clearly defined, yellowish white; two bars across the wing; under parts white tinged with yellow on the breast and flanks; lower tail-coverts yellow; upper mandible brown, lower mandible yellowish; legs plumbeous; iris brown. Culmen 0·52, wing 2·4, tail 2·1, tarsus 0·7 inch; 1st primary about 0·5 long, 2nd intermediate between 6th and 7th. In the winter the plumage is brighter and yellower.

Hab. South-easten Siberia, Corea, and Japan in summer, wintering in southern Pegu, Tenasserim, Java, and Malacca. It has once occurred in Heligoland but has not been recorded from elsewhere in Europe.

According to Godlevski it resembles *P. plumbeitarsus* in its habits and frequents the foliage of trees and groves, but its call-note and song are different, the former resembling the syllables *fititi*. Its song is low but melodious. I find nothing on record respecting the nidification except that, like *R. occipitalis*, its eggs are pure white, unspotted.

A slightly different form which lacks the coronal band (*Acanthopneuste ijimæ* Stejn. Proc. Nat. Mus. XV. p. 372–1892) inhabits the Idzu Islands, Japan.

Dr. Julius von Madarasz has also described under the name of *Acanthopneuste puella* a form from Vladivostock, which also lacks the coronal band of which I have seen the type which is he assures me separable from *A. ijimæ*.

154. Large-Crowned Willow-Warbler.

PHYLLOSCOPUS OCCIPITALIS.

Phylloscopus occipitalis (Jerdon) *fide* Blyth, J. A. Soc. Beng. xiv. p. 593 (1845); Seebohm, Cat. B. Br. Mus. v. p. 50; Pleske Orn. Ross. ii. p. 196, pl. 11, figs. 6, 7; (Oates), F. Brit. Ind. Birds, i. p. 418.

♂ *ad.* (Himalayas). Resembles *P. coronatus*, but has the under parts of one uniform tint of colour, and the second primary is intermediate between the seventh and eighth; bill horn-brown; legs pale brown; iris brown. Gape 0·6, wing 2·6, tail 2·1, tarsus 0·7 inch. In the winter-plumage it is rather yellower.

Hab. The more elevated portions of the Himalayas, breeding in Kashmir and Turkestan, wintering from the foot of the Himalayas to about the latitude of Belgaum and Nellore, and from Sind to the longitude of Calcutta, and sparingly up the valley of Assam and in North Cachar.

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It breeds from May to July and places its nest in holes, amongst the roots of trees, in hollow tree-stumps or amongst stones. The nest is loosely constructed of green moss and small dead leaves, lined with fine grass, wool, hair, and feathers, and is not domed. The eggs, from 4 to 5 in number, are pure white and average in size 0·65 by 0·50. The nest is easy to find as the birds are very noisy and demonstrative when anyone approaches it.

155. Brooks's Willow-Warbler.

PHYLLOSCOPUS SUBVIRIDIS.

Phylloscopus subviridis (Brooks), P. A. Soc. Beng. 1872, p. 148; Seebohm, Cat. B. Br. Mus. v. p. 74, pl. iv. fig. 2; Oates, F. Brit. Ind. Birds, i. p. 409.

♂ *ad.* (India). Upper parts clear greenish yellow; two distinct bars across the wing; mesial and superciliary stripes, sides of the head and under parts yellow, tinged with ochreous; bill greenish brown; legs greyish green; iris blackish. Culmen 0·45, wing 2·35, tail 1·85, tarsus 0·7 inch; first primary about 0·55 long, the second intermediate between the eighth and ninth.

Hab. Afghanistan and Kashmir in summer, wintering in the North-western Provinces of India and the Punjab as far east as Allahabad.

Col. Biddulph says that it breeds in Gilgit in the Nulter valley at 10,000 feet in July, and a specimen shot by Major Wardlaw Ramsay at Bian Kheyl in Afghanistan in May contained eggs nearly ready to lay, but its nest does not appear to have been yet discovered.

HYPOLAIS, Brehm, 1828.

156. Icterine Warbler.

HYPOLAIS ICTERINA.

Hypolais icterina (Vieill.), N. Dict. xi. p. 194 (1817); Newton, i. p. 360; Dresser, ii. p. 521, pl. 81; Saunders, p. 75; Lilford, iii. p. 32, pl. 16; Seebohm, Cat. B. Br. Mus. v. p. 77; *S. hypolais* Naumann, iii. p. 540, Taf. 80, fig. 1; Gould, B. of E. ii. pl. 133; (id.) B. of Gt. Brit. ii. pl. 71.

Becfin à poitrine jaune, French; *Gelber Spottvogel*, German; *Spotvogel*, Dutch; *Gulbuget Sanger*,—Dan.; *Bastardnattergal*, Norweg.; *Bastardnäktergal*, Swed.; *Kultarintakerttu*, Finn.; *Ljesnaja, Malinovka*, Russ.; *Zaganiacz*, Polish.

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♂ *ad.* Upper parts greyish olive; under parts lemon-yellow; wings and tail dull brown externally paler margined; lores and a streak over the eye yellow; auriculars dull brownish yellow; bill brown above, the lower mandible yellowish; legs dull slate; iris brown. Culmen 0·68, width of mandible at base 0·3, wing 3·1, tail 2·25, tarsus 0·8 inch; first primary scarcely as long as the coverts, second nearly equal to the fourth, the third slightly longer. The female is a little paler than the male, and the young bird has the upper parts darker and browner and the wing-feathers broadly margined with dull buff.

Hab. Central and northern Europe, as far north as Jemtland in Sweden, and the borders of Nordland in Norway, as far east as the Ural, and south to the Crimea and Caucasus, wintering in South Africa; a very rare straggler to Great Britain.

In many respects this species has considerable affinity with the Aquatic Warblers, between which and the *Phylloscopi* it forms a link, differing appreciably from both in its nest and eggs.

Frequents woods, gardens, etc., in the lowlands, both in damp and dry localities, is shy and secretive in its habits, and even when singing generally hides amongst the dense foliage. Its song is rich and varied, somewhat Thrush-like, and it is an excellent mimic, imitating with facility the notes of many other species. It breeds in May or early in June placing its nest in the fork of a bush or low tree. The nest is an exceedingly neat and artistic structure, cup-shaped, made of fine rootlets, straws, a little wool or moss, fine shreds of bark, &c., worked together with spiders' webs, and lined with fine bents, rootlets, and hair, and the eggs 4 or 5, seldom 6 in number, are rose-pink, sometimes with a faint brownish tinge, speckled with dark purplish brown dots and spots, and measure from 0·75 by 0·57 to 0·78 by 0·56.

157. Melodious Warbler.

HYPOLAIS POLYGLOTTA.

Hypolais polyglotta (Vieill.), N. Dict. xi. p. 200 (1817); Dresser, ii. p. 517, pl. 80, fig. 2; Seebohm, Cat. B. Brit. Mus. v. p. 79; Saunders, p. 77.

Almendrita de verano, Span.; *Folosa*, Portug.

♂ *ad.* (Spain). Differs from *H. icterina* in being smaller, somewhat duller in colour, with a different wing-formula. Culmen 0·6, width of mandible at base 0·22, wing 2·5, tail 2·05, tarsus 0·85 inch; first primary small, but 0·18 longer than the coverts, second rather shorter than the sixth, third and fourth equal and longest.

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Hab. Western Europe and N. W. Africa, as far east as Italy and as far north as Southern France, rarely occurring in Northern France and Belgium, and has strayed at least once as far as England; winters in Africa at least as far south as Senegambia.

In habits, song, and nidification, it does not differ appreciably from *H. icterina*, but breeds rather later, usually late in June, and its eggs are not only spotted but slightly streaked with deep purplish brown, and smaller, measuring from 0·57 by 0·50 to 0·69 by 0·55.

158. Olive-tree Warbler.

HYPOLAIS OLIVETORUM.

Hypolais olivetorum (Strickl.), in Gould's B. of E. ii. pl. 107 (1837); Dresser, ii. p. 527, pl. 82, fig. 2; Seebohm, Cat. B. Br. Mus. v. p. 79.

♂ *ad.* (Asia Minor). Upper parts dull brownish grey tinged with olivaceous; wings and tail darker and margined with dull white; edge of eyelids and an indistinct superciliary stripe white; under parts white, the breast washed with pale yellowish buff, and the flanks with brownish buff; beak horn-brown, lower mandible yellowish at base; legs dull plumbeous; iris dark brown. Culmen 0·73, wing 3·4, tail 2·8, tarsus 0·95 inch; first primary very short, only 1·2 long, second and fourth about equal, third 0·1 longer than the second, and longest. The female and young are a trifle paler and duller, and in the winter the under parts are rather greyer in both sexes.

Hab. Greece, Asia Minor, Palestine, and Algeria; of doubtful occurrence at Valencia in Spain; winters in Africa, how far south we do not know, but it has been met with in Abyssinia.

It frequents the olive groves in the valleys, and is very shy and unobtrusive in its habits, seeking its food, which, like its allies', consists chiefly of insects, amongst the dense foliage. Its song is loud and of fairly good quality, resembling that of the Sedge-Warbler in loudness and rapidity but is superior in tone, and though loud, rich, and clear, is somewhat monotonous. Its nest, which is placed in the fork of an olive-tree, is neatly constructed of thistle-down and fine grass-bents, finished off at the top with cobwebs and other similar material, cup-shaped, and lined with a few rootlets and horsehairs, and the eggs which are deposited in June, usually 4 in number, are larger than any other of the genus, pale reddish grey in ground colour, much paler than those of *H. polyglotta*, but not so grey

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as those of *H. pallida*. The spots are rather larger and have the same tendency to run into streaks, the shell-markings are scarcely noticeable, and the ground-colour is opaque. In size they average about 0·8 by 0·58. Sometimes, though rarely, the spots have a tendency to form a zone round the larger end.

159. Western Olivaceous Warbler.

HYPOLAIS OPACA.

Hypolais opaca (Licht.) in Cat. Mus. Hein. i. p. 36 (1850); Dresser, ii. p. 531, pl. 82, fig. 1; Seebohm, Cat. B. Br. Mus. v. p. 83; *H. cinerascens* (De Selys) *fide* Newton, Blas. List. B. Eur. p. 11 (1862).

Pinchahigos, Spanish.

♂ *ad.* (Spain). Differs from *H. pallida* in being larger, with a larger first primary and a broader bill. Culmen 0·72, breadth of lower mandible at base 0·3, wing 2·8, tail 2·55, tarsus 0·9 inch; first primary extending 0·35 beyond the coverts, and 1·1 shorter than the second; second 0·25 shorter than the third, the third and fourth equal.

Hab. Southern Spain and Algeria, wintering in West Africa as far south as Senegambia.

Frequents gardens and orchards, is very active and vivacious in its habits, tame and fearless. It affects tall trees in preference to bushes, and feeds on insects, which it captures on the wing with ease. Its song is clear and loud and usually uttered from a branch. Its call-note resembles the syllables *tack, tack*. Its nest, which is placed in the fork of a branch at some distance from the ground, is larger even than that of *H. olivetorum*, and is neatly built of dry grass-bents and rootlets, and lined with cotton and thistle-down. The eggs 4 or 5 in number are deposited in June, and resemble those of *H. pallida*, but are rather more boldly marked, and larger, measuring about 0·78 by 0·58.

160. Olivaceous Warbler.

HYPOLAIS PALLIDA.

Hypolais pallida, (Hempr. and Ehr.), Symb. Phys. fol. *bb*, (1828); Dresser, ii. p. 537, pl. 80, fig. 1; Seebohm, Cat. B. Br. Mus. v. p. 82; (Oates), F. Brit. Ind. Birds, i. p. 392; *H. elaica*, (Lindermayer), Isis. p. 342, 1843.

♂ *ad.* (Egypt). Upper parts dull pale olivaceous brown paler on the rump; wings and tail dark brown with paler margins; an indistinct yellowish stripe from the base of the bill over the eye; under parts buffy white,

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throat and middle of abdomen nearly pure white, flanks washed with pale brown; bill horn-brown, lower mandible yellowish at base; legs pale horn-brown; iris dark brown. Culmen 0·62, under mandible 0·22, broad at base, wing 2·63, tail 2·2, tarsus 0·83 inch; first primary extending 0·27 beyond the coverts, and 1·15 shorter than the 2nd, second 0·2 shorter than the 3rd, third and fourth equal. The female and young do not appreciably differ from the male.

Hab. South-eastern Europe, Western Asia and North-eastern Africa in summer, occurring rarely as far west as Italy, extending east through Asia Minor and Transcaspia to Persia, Turkestan, and Bokhara, and south as far as Abyssinia, wintering further south in Africa.

Restless uneasy and shy this species is often seen but is difficult to obtain as it creeps about amongst the foliage with the greatest ease. It frequents groves, orchards, and bush-covered places both in the valleys, in damp localities and also to an altitude of 6,000 feet. It is an industrious songster, and its song has been compared to that of *H. icterina* and also to that of the White-throat, but is louder and not so hurriedly uttered. Its nest is usually placed in the fork of a branch of a low tree, well concealed, and is neatly constructed of dry plant- and grass-stems, moss, and fine rootlets, intermixed with brown thistle-down and lined with fine rootlets, down, and occasionally a horsehair or two. The eggs 4 or 5 in number are deposited in June, and are pinky grey with dark spots and dots and an occasional dark streak. Occasionally but rarely the spots are collected round the larger end; in size they average about 0·67 by 0·51.

161. Upcher's Warbler.

HYPOLAIS LANGUIDA.

Hypolais languida, (Hempr. and Ehr.) Symb, Phys. fol. *bb.* (1828); Dresser, ii. p. 535, pl. 83; Seebohm, Cat. B. Br. Mus. v. p. 80; *H. upcheri*, Tristram, P.Z.S. 1864, p. 438.

♂ *ad.* (Baluchistan). Resembles *H. pallida* but is somewhat larger, has the bill narrower and more slender, the first primary much shorter and narrower, and is greyer in tinge of colour. Culmen 0·75, wing 3·1, tail 2·7, tarsus 0·9 inch; the first primary scarcely as long as the coverts, 1·8 shorter than the second, second 0·2 shorter than the 3rd, third and fourth about equal.

Hab. Palestine, Syria, South-eastern Persia, Afghanistan, Turkestan, Bokhara, Baluchistan, Egypt, and Abyssinia.

It is said to be restless and active in its habits, and to resemble *Acrocephalus dumetorum* living amongst thick bushes,

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and hunting about the branches for insects, and is less numerous than *H. pallida* except in the more open and semi-desert country. It frequents gardens, comparatively open bush-covered plains and wooded ravines up to an altitude of 5,500 feet. Its call-note is a sharp cry like *tschick-tschick* unlike that of *H. pallida*, but I do not find any description of its song. Its nest is placed in a low tree or bush, not more than a yard or two from the ground, is very neat, cup-shaped, constructed of grass-bents, spiders' webs and plant-down, and the eggs, 4 or 5 in number, are deposited in June, and are pinkish white, with small scattered spots and irregular streaks of dark chocolate brown and measure about 0·75 by 0·53.

162. Sykes's Warbler.

HYPOLAIS RAMA.

Hypolais rama, (Sykes), P.Z.S. 1832, p. 89; Dresser, P.Z.S. 1874, pl. lxxix. (nest and eggs); id. ix p. 91; Seebohm, Cat. B. Br. Mus. v. p. 84; (Oates), F. Brit. Ind. Birds, i. p. 391; *H. obsoleta*, (Severtz.) Turk. Jevot. pp. 66, 129 (1873); Seebohm, Cat. B. Br. Mus. v. p. 86; Oates, tom. cit. p. 393.

Koktalghu, Turki; *Tchourlentki*, Tekki, in Transcaspia.

♂ *ad.* (Transcaspia). Differs from *H. pallida* in being smaller darker in colour both above and below, and has a longer first and a shorter second primary. Culmen 0·57, wing 2·4, tail 2·15, tarsus 0·82 inch; first primary 0·35 longer than the coverts, the second intermediate between the 7th and 8th or the 8th and 9th. In the autumn the under parts are washed with buffish brown.

Hab. Transcaspia, Turkestan, south-west Persia, Kashmir, Sind, and south-eastern Mongolia, wintering throughout the whole peninsula of India, south to the Nilgiris and east to Dinapore and Lohardugga.

In general habits is said to resemble *H. caligata* but its note differs. It frequents bush-covered localities and tamarisk-thickets, especially in or near damp localities, and is much commoner on the plains than in the hills. Its song is somewhat feeble but agreeable, and is generally uttered from the top branch of a bush. It breeds from the latter part of April to the early part of June and places its nest in a low bush near the ground; constructing it of fine tamarisk-twigs, plant-stems, grass-bents and vegetable down, interwoven with spiders' webs and cocoons, and lined with vegetable down, camels' wool, and

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occasionally a few feathers. The eggs 4 or 5 in number, are dull French white with pale purplish grey underlying shell-spots and blackish brown surface-spots, irrregular lines and scratches, which are often collected and form a wreath round the larger end. In size they average about 0·61 by 0·49.

163. Booted Warbler.

HYPOLAIS CALIGATA.

Hypolais caligata, (Licht.) in Eversm. Reise nach Buchara, p. 128 (1823); Dresser, ii. p. 541, pl. 84; Seebohm, Cat. B. Br. Mus. v. p. 85; Pleske, Orn. Ross. ii. p. 367; (Oates), F. Brit. Ind. Birds, p. 393; *S. scita*, Eversm. Add. Pall. Zoogr. Ross. As. fasc. iii. p. 12 (1842); *S. salicaria*, Naum. Vög. Deutschl. Anhang p. 78, Taf. 375, fig. 2.

♂ *ad.* (Turkestan). Differs from *H. rama* in being smaller, with a shorter first and longer second primary and a shorter tail. Culmen 0·53, wing 2·35, tail 2·00, tarsus 0·85 inch; first primary nearly 0·3 longer than the coverts and 1·05 shorter than the second, which is 0·18 shorter than the third, which is the longest.

Hab. Russia, from Moscow in the west to the valley of Yenesei in the east, north to about 61°; the Altai, Turkestan, Bokhara, Transcaspia, and Kashmir; wintering in northern and central India, south to Belgaum, east to Mudhupur and west to Karáchi and Hydrabad.

It has occurred as far west as Heligoland.

In general habits it differs but little from *H. rama* and like that species frequents bush-covered localities near water, but is also found amongst bushes on the dry steppes. It does not go far in the mountains but affects the plains. Its song is said to have affinity with that of *H. icterina*, and also with the song of the Sedge-Warbler, and it sings both during the day and at night. It breeds in May and places its nest, which is cup-shaped and neatly constructed, either in a low bush above the ground or on the ground amongst grass, constructing it of fine grass-bents and plant-stems, fine rushes, hair, and a few feathers, and lining it with fine rootlets, hair, and wool, and sometimes a little ducks-down. The eggs 4 to 6 in number are rose coloured or salmon colour, marked with a few purplish underlying shell markings, and blackish surface spots and dashes, which are rather more numerous at the larger end; in size they measure about 0·58 by 0·47.

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AEDON, Boie, 1826.

164. RUFOUS WARBLER.

AEDON GALACTODES.

Aedon galactodes, (Temm.) Man. d'Orn. i. p. 182 (1820); (Gould), B. of E. ii. pl. 112; id. B. of Gt. Brit. ii. pl. 53; Newton, i. p. 355; Dresser, ii. p. 547, pl. 85, fig. 1; (Seebohm), Cat. B. Br. Mus. v. p. 34; Saunders, p. 73; Lilford iii. p. 30, pl. 15.

Rouxinol do matto, Portug.; *Alzacola*, Span.; *Rusignuolo africano*, Ital.

♂ *ad* (Spain). Upper parts dull brownish rufous, the rump and upper tail-coverts nearly fox-red; quills dark brown margined with rufous, the inner ones tipped with dull white, the wing-coverts margined with pale sandy brown; tail rounded, red, the central feathers foxy red throughout, the rest tipped with white, which broadens towards the outside ones, and with a sub-apical black patch; eye-stripe buffy white; lores and a patch behind the eye blackish brown; under parts greyish white, sides of neck and flanks washed with pale brown; bill dull brown, base of lower mandible yellowish; legs pale brown; iris dark brown. Culmen 0·72, wing 3·5, tail 2·12 tarsus 1·0 inch; first primary slightly shorter than the coverts, second 0·2 shorter than the 3rd, third, fourth, and fifth nearly equal and longest. The female and young do not differ from the male except that the latter have the quills and wing-coverts margined with pale fulvous.

Hab. Spain, Portugal, Palestine, and North Africa as far as Abyssinia where it is resident; winters in Africa as far south as the Gold Coast; has occurred in Italy and twice in Great Britain.

Frequents dry, arid, localities, vineyards, reed thickets, gardens, and prefers shady and dense underwood, and is usually seen on the ground or not far above it, and is as a rule shy. When alighting on a twig it spreads its tail showing its peculiar markings, and on the ground it runs briskly. Its song is soft, low, and mellifluous, and is usually uttered from the top of a bush or low tree. It feeds on insects which it generally obtains on the ground. Its nest is placed in the fork or branch of a low tree or bush from one to six feet from the ground, without any attempt at concealment, and it has been found on the ground amongst the roots of a tree. It is constructed of tamarisk-shoots, grass, rootlets, &c., lined with wool, hair, or feathers, and a small piece of serpent's skin is

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usually placed at the bottom of the cup. The eggs, usually 4 in number, are delicate French white, sometimes with a faint blue green tinge, marked with pale underlying greyish brown shell-markings, and small dark brown surface-spots and average in size about 0·88 by 0·65. They closely resemble those of *Anthus campestris*.

165. Grey-backed Warbler.

AEDON FAMILIARIS.

Aedon familiaris, (Ménétr.) Cat. Rais. p. 32 (1832); Dresser, ii, p. 553, pl. 85, fig. 2; Pleske, Orn. Ross. ii. p. 148; (Seebohm), Cat. B. Br. Mus. v. p. 36; (Oates), F. Brit. Ind. Birds, i. p. 351.

Kamyschevy-Solovei, Russ.; *Rusignuolo levantino*, Ital.

♂ *ad.* (Asia Minor). Differs from *Aedon galactodes* in having the upper parts much greyer, being greyish brown, not rufous brown, the central tail-feathers dull dark greyish brown, the under parts paler and greyer, and the first primary rather shorter. Culmen 0·75, wing 3·4, tail 2·75, tarsus 1·0 inch; first primary fully 0·1 less than the coverts and the second 0·5 less than the third.

Hab. Greece, Asia Minor, the Caucasus, Persia, Turkestan, Afghanistan, and Baluchistan, and winters in Sind and Rajpootana; has strayed as far west as Heligoland, and occurs though rarely in Italy.

In general habits it resembles *A. galactodes*, frequents the same localities; and its song differs but little; its call-note is said to be *tack, tack*. It breeds in May or June, placing its nest in a low tree near the trunk, not high above the ground and occasionally on the ground itself. It is carelessly built of plant-stems, and lined with wool, cotton, feathers, and always contains a piece of serpent's skin. The eggs 4 to 6, usually 5 in number, closely resemble those of *A. galactodes* but are paler, and are subject to considerable variation.

ACROCEPHALUS, Naumann, 1811.

166. Paddy-field Warbler.

ACROCEPHALUS AGRICOLA.

Acrocephalus agricola, Jerdon, Madr. Journ. xiii. pt. 2. p. 131 (1844); Dresser, ii. p. 559, pl. 86, fig. 1; Seebohm, Cat. B. Br. Mus. v. p. 105: Pleske, Orn. Ross. ii. p. 552; Oates, F. Brit. Ind. Birds, i. p. 359.

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♂ *ad* (Ural). Upper parts pale warm rufous brown, darker on the head and brighter on the rump; wings and tail with fulvous brown margins; a light superciliary streak; under parts white, flanks and lower abdomen washed with buff; bill above dark brown, below fleshy yellow; legs pinkish brown; iris yellow, eyelids plumbeous. Culmen 0·45, wing 2·2, tail 2·4, tarsus 0·9 inch; wings short and rounded; first primary narrow, about 0·15 longer than the coverts, second intermediate between 6th and 7th, third and 4th equal and longest; tail much rounded. The female does not differ, but the young bird has the upper parts brighter and the under parts washed with ochreous buff.

Hab. The western Ural, the Crimea, Transcaspia, the Altai, Turkestan, the Himalayas from Kashmir to Nepal, wintering in the plains of India.

It frequents damp localities, reed-beds, the borders of small rivers and streams, gardens, and grassy places, but I find no description of its call-note or song. It breeds in damp localities and builds a cup-shaped nest, resembling that of *A. arundinaceus*, attached to reeds, and lined with fine plant-strips. The eggs resemble those of *A. streperus* but are smaller, averaging 0·68 by 0·53, and are paler in ground colour.

167. Blyth's Reed-Warbler.

ACROCEPHALUS DUMETORUM.

Acrocephalus dumetorum, Blyth, J. As. Soc. Beng. xviii. p. 815 (1849); Dresser, ii. p. 561, pl. 86, fig. 2; Seebohm, Cat. B. Br. Mus. v. p. 104; (Oates), F. Brit. Ind. Birds, i. p. 359; Pleske, Orn. Ross. ii. p. 532. *A. magnirostris* (Liljeb,) Öfv. K. Vet. Ak. Förh. 1850, p. 274, pl. xix.

Podena, Hind.; *Tik-tikki*, of the Mussulmans; *Tikra*, Beng.; *Sadovaya-Malinofka*. Russ.; *Viitakerttu*, Finn.

♂ *ad.* (Ural). Upper parts dull light olivaceous brown; the rump more olivaceous, the sides of the head tinged with grey; wings and tail dark brown margined with olivaceous brown; a dull white superciliary stripe; under parts white, tinged with yellowish buff on the breast, flanks and crissum; bill brown above, fleshy below; legs reddish brown; iris yellow-brown. Culmen 0·6, wing 2·5, tail 2·2, tarsus 0·9 inch; first primary narrow, equal in length to the coverts, second 0·2 shorter than the 3rd, and about equal to the 7th; 3rd and 4th nearly equal and longest, sexes alike. In the winter the underparts are washed with clear buff.

Hab. Russia, from the Government of St. Petersburg east to the valley of the Yenesei, and from Archangel to Orenburg;

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Transcaspia, the Altai, Turkestan, Bokhara, and the Himalayas from Kashmir to Nepal, wintering in India from the Himalayas to Ceylon, and from Sind to Assam and southern Pegu.

In its general habits is less aquatic than its allies, and frequents not only reeds and trees overhanging the water, but also low bush jungle and is to be met with at an altitude of 6,000 feet or even higher. Near St. Petersburg it is generally met with in gardens. Its call-note is a sharp *tchik, tchik* resembling the sound caused when a flint and steel are struck but I find no description of its song. It places its nest in a low bush near the ground, and the nest is globular with a lateral entrance, rather loosely constructed of grass, and lined with finer grass or horsehair. The eggs which are deposited in May run into three varieties, the first of which are pale rose coloured with violet-grey and reddish brown and a few black spots, the second milky white spotted with olive-brown, and the third dirty white so closely spotted with brown that the ground colour is almost hidden. In size they average about 17·85 by 12·95 millimetres (0·70 by 0·60 inch).

168. Reed-Warbler.

ACROCEPHALUS STREPERUS.

Acrocephalus streperus, (Vieill.) Nouv. Dict. xi. p. 182 (1817); Newton, i. p. 369; Gould, B. of Gt. Brit. ii. pl. 73; Dresser, ii. p. 567, pl. 87, fig. 1; Seebohm, Cat. B. Br. Mus. v. p. 102; Saunders, p. 79; Lilford, iii. p. 36, pl. 18; *A. arundinaceus*, nec. Linn. (Naumann), iii. p. 614, Taf. 81, fig. 2.

Rousserolle effarvatte, French; *Rouxinol pequero Lascaniças*, Portu.; *Pinzoleta*, Span.; *Cannajola minore*, Ital.; *Teichsänger* German; *Kleine Karekiet*, Dutch; *Rörsanger*, Dan.; *Rörsångare*, Swed.; *Trostnikovaja-Kameschefka*, Russ.; *Trzcionka*, Polish.

♂ *ad.* (Italy). Upper parts pale brown with a rufous tinge; wings and tail hair-brown margined with rufous brown; superciliary line pale yellowish buff; underparts pale buff darkest on the flanks; bill dark horn, yellowish at the base below; legs slaty brown; iris dark brown. Culmen 0·6, wing 2·55, tail, 2·05, tarsus 0·9 inch; second quill about equal to the fourth; female similar but rather smaller; in the winter the underparts are more tinged with buff.

Hab. Europe generally, from southern Sweden and Great Britain to the Mediterranean, and from Portugal to Palestine, Asia Minor, Persia, and Afghanistan, wintering in Central Africa.

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In its habits the Reed-Warbler is essentially aquatic, frequenting reed-beds and bushes in swampy localities. As a rule it is not shy but is averse to coming out into the open, and creeps about amongst the dense aquatic herbage with the greatest ease. Its call-note resembles the syllables *tscho, tscho,* and its song, which is uttered at intervals throughout the day and especially in the evening, is clear and melodious. It feeds chiefly on insects of various kinds, but occasionally on berries. The nest, which is suspended from reeds or willow twigs, is deep cup-shaped, artistically constructed of fine roots, grasses, plant-stems &c., and lined with fine rootlets or grass-bents, and the eggs 4 or 5 in number, are deposited late in May or in June, and are French white faintly tinged with green, and marked with greenish grey underlying shell markings and greenish brown surface spots which are distributed over the whole egg. In size they average about 0·75 by 0·53.

169. Marsh-Warbler.

ACROCEPHALUS PALUSTRIS.

Acrocephalus palustris, (Bechst.) Orn. Taschenb. i. p. 186 (1802); (Naumann), iii. p. 630, Taf. 81, fig. 3; Dresser, ii. 573, pl. 87, fig. 2; (Gould), B. of E. ii. pl. 109; (id.) B. of Gt. Brit. ii. pl. 74; Newton, i. p. 373; Seebohm, Cat. B. Br. Mus. v. p. 101; Saunders, p. 81; Lilford, iii. p. 38, pl. 19.

Rousserolle-verderolle, French; *Cannajola-verdognola*, Ital.; *Sumpfrohrsänger*, German; *Bosch-Rietzanger*, Dutch; *Sumpsanger*, Dan.; *Kärrsångare*, Swed.; *Bolotnaja-Malinofka*, Russ.; *Lozówka*, Polish.

♂ *ad.* (Belgium). Resembles *A. streperus*, but the upper parts are more olivaceous green, the underparts whiter, and the second quill is slightly shorter than the third, occasionally shorter only than the 4th; beak and iris as in *A. streperus*; legs fleshy brown. Culmen 0·6, wing 2·8, tail 2·3, tarsus 0·95 inch; female similar but rather smaller. In the winter the underparts are washed with buff.

Hab. Europe from southern Sweden to the Mediterranean, and from Portugal to the Ural range, wintering in Palestine, Persia, and Africa; of rare occurrence in England.

The Marsh-Warbler is less aquatic in its habits than the Reed-Warbler for though it is found in damp localities, yet it also frequents gardens and groves. Its call-note is harsh, resembling that of the Reed-Warbler, and its song is exceedingly rich and sweet, far superior to the song of that

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species, and somewhat resembles that of the Icterine Warbler, but is richer and of more compass. It is also an excellent mimic. It never places its nest amongst reeds or over the water, but in a bush, amongst rank herbage or in tangled brushwood, on dry ground, and seldom below from one to three feet above the ground. It is constructed of dry plant-stems, grasses, and nettle-fibres interwoven with insect-webs, and lined with fine grass-bents and horsehairs. The eggs 4 to 6 in number are usually deposited in June, and are French white, occasionally with a faint greenish tinge, somewhat sparingly marked with small purplish grey shell-markings, and larger dark brown or purplish brown surface-spots, which are usually more numerous at the larger end. In size they average about 0·73 by 0·52.

170. Great Reed-Warbler.

ACROCEPHALUS ARUNDINACEUS.

Aerocephalus arundinaceus, (Linn.) Syst. Nat. i. p. 96 (1766); (Hewitson), i. p. 122, pl. xxxii. figs. 3, 4; Newton, i. p. 364; Dresser, ii. p. 579, pl. 88; *A. turdoides*, (Meyer), Vög. Liv. and Esthl. p. 116 (1815); (Naumann), iii. p. 597, Taf. 81, fig. 1; (Gould), B. of E. pl. 106; (id.) B. of Gt. Brit. ii. pl. 72; Seebohm, Cat. B. Br. Mus. v. p. 95; Saunders, p. 83; Lilford, iii. p. 34, pl. 17.

Rousserolle, French; *Rouxinol dos paús*, Portug.; *Carrisalero*, Span.; *Cannaseccione*, Ital.; *Karakiet, Rietlijster*, Dutch.

♂ *ad.* (S. Russia). Upper parts dull light brown tinged with warm rufescent olivaceous; quills and tail brown, the former with lighter margins; an indistinct dull white supercilium; under parts white, the underwing and tail-coverts and flanks washed with pale warm fawn-colour; a few indistinct striæ on the throat; bill brown, the lower mandible yellowish at the base; legs light brown; iris dark brown. Culmen 0·78, wing 3·85, tail 3·15, tarsus 1·2 inch; first primary small, much shorter than the coverts, 2nd and 3rd equal and longest. Female similar, the young have the upper parts tinged with rusty ochreous, the supercilium warm fawn-buff, and the underparts excepting the chin and upper throat, warm rusty fawn. In the winter the under parts of the adult are much more fulvous in tinge.

Hab. Central and southern Europe, as far north, though rarely, as Great Britain, and southern Sweden; south to North Africa and east to Palestine, Asia Minor, Persia, Turkestan, and Afghanistan, wintering in Africa south to the Transvaal.

Frequents damp marshy localities and dense reed-beds, where it creeps about amongst the aquatic herbage with ease

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Its flight is jerky and feeble, and it is very shy and averse to take wing. Its call-note is a harsh *tschak* or *tack* and a deep *tscharr*, and its song though loud and not unmelodious is not of a high order, and is generally uttered from a high reed or some exposed position. It feeds chiefly on insects and in autumn to some extent on berries. Its nest is like that of the Reed-Warbler, but larger, and is attached to several stems of rushes, or reeds near the water. The eggs which are deposited in May or June, usually 4 or 5 in number, are pale blue green marked with purplish grey shell-blotches, and dark brown surface-spots, and average 0·9 by 0·75 in size.

171. Eastern Great Reed-Warbler.

ACROCEPHALUS ORIENTALIS.

Acrocephalus orientalis, (Temm. and Schleg.) Faun. Jap. Aves. p. 50. pl. xxb. (1847): Pleske, Orn. Ross. ii. p. 493: (Oates), F. Brit. Ind. Birds, i. p. 357; Seebohm, Cat. B. Br. Mus. v. p. 97.

♂ *ad.* (China). Differs from *A. arundinaceus* in being smaller, in having the legs slate-grey, and in having the second quill intermediate between the 3rd and 4th or between the 4th and 5th. Culmen 0·9, wing 3·2, tail 2·9, tarsus 1·0 inch.

Hab. Siberia, as far west as the Argun river, Northern and Central China, and Japan, wintering in Burma, Tenasserim, the Andamans, and Philippines nearly as far south as Australia.

In habits and song it resembles the preceding species, and its nest and eggs are similar, but the latter are, as a rule, somewhat smaller.

172. Clamorous Reed-Warbler.

ACROCEPHALUS STENTOREUS.

Acrocephalus stentoreus, (Hempr. and Ehr.) Symb. Phys. Aves. fol. *b.b.* (1828); Stafford Allen, Ibis. 1864, p. 97, pl. i; Dresser, ii. p. 585; Seebohm, Cat. B. Br. Mus. v. p. 98; (Oates), F. Brit. Ind. Birds, i. p. 356; *A. brunnescens*, (Jerdon), Madr. Journ. x. p. 269 (1839); Hume and Henderson, Lahore to Yark. p. 214, pl. xvi.

♂ *ad.* (India). Differs from *A. arundinaceus* in having the wing shorter, the bill longer, and not so stout, the second primary about equal to the 5th and shorter than the 3rd and 4th; upper mandible dark horn, under mandible flesh colour with a dusky tip; legs and feet greenish plumbeous; iris brownish yellow. Culmen 0·9, wing 3·45, tail 3·3, tarsus 1·15 inch.

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Hab. Egypt, Transcaspia, Persia, Bokhara, Turkestan, Kashmir, Nepal, Sind, and Ceylon, wintering on the plains of India from the Himalayas to Ceylon, and from Sind to Assam and southern Pegu.

In general habits it does not differ from *A. arundinaceus* and frequents the same localities, but its song is said to differ not a little and to be louder. Its call-note is a loud *tchak*, often repeated. The breeding season is from May to August according to locality, and the nest is built amongst the reeds or in the fork of a low bush, always over water. It is deep, cup-shaped, constructed of aquatic herbage, fine roots, grass, and fibres, and 4 eggs are usually deposited. These vary considerably both in ground colour and markings. In most the ground colour is pale green or greenish white occasionally with a bluish tinge, in some it is creamy stone-colour; some are stippled with numerous minute specks, and spotted and blotched with greyish black, inky purple, olive-brown, yellowish olive and reddish umber, whereas in others the stippling is wanting and the markings are smaller and less well defined, and in most the markings are most numerous at the larger end. Average size about 0·89 by 0·61.

173. Schrenck's Reed-Warbler.

ACROCEPHALUS BISTRIGICEPS.

Acrocephaelus bistrigiceps, Swinhoe, Ibis, 1860, p. 51 ; Seebohm, Cat. B. Br. Mus. v. p. 94; Pleske, Orn. Ross. ii. p. 465 ; (Oates), F. Brit. Ind. Birds, i. p. 358 ; *A. maackii* (Schrenck), Reis. Amurl. i. pt. 2. p. 370, pl. xii. figs. 4, 5 ; Tacz. F. O. Sib. O. p. 236; (David and Oust.) Ois. Chine. p. 254.

♂ *ad.* (Japan). Upper parts russet brown, the head, wings, and tail greyer, rump and margins of quills and tail rufescent ; a narrow but distinct whitish superciliary stripe, above which is a dark brown, broad stripe ; lores and feathers behind the eye russet brown ; chin and throat nearly white ; breast and flanks pale rufous brown, the centre of abdomen and under tail-coverts pale buff ; upper mandible brown, the lower flesh-coloured, brown at tip ; legs plumbeous flesh ; iris dark brown. Culmen 0·6, wing 2·1, tail 2·1, tarsus 0·8 inch ; first primary 0·5 long, second intermediate between 6th and 7th.

Hab. Siberia east of the Argun, Saghalien, and Japan ; wintering in Southern Pegu and Tavoy.

In habits it does not differ appreciably from its allies and frequents moist and marshy places. It is an industrious

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songster and its song is loud and agreeable though somewhat hurried. It commences nidification in June and builds amongst grass or dense undergrowth, and its nest which is placed usually one or two feet above the ground is strongly constructed of plant-cotton, grass and plant-stems, and the cup, which is deep, is lined with finer bents and horsehair. The eggs, 4 to 6 in number, resemble those of *A. schœnobœnus*, but are much browner and darker, and measure only 0·63 by 0·51.

174. Aquatic Warbler.

ACROCEPHALUS AQUATICUS.

Acrocephalus aquaticus, (Gmel.) Syst. Nat. i. p. 953 (1788); (Temm.) Man. d'Orn. p. 131 (1815); (Gould), B. of E. ii. pl. 3. fig. 2; (id.) B. of Gt. Brit. ii. pl. 76; (Naumann), iii. p. 686, Taf. 82. figs. 2, 3, 4, 5; Newton, i. p. 380; Seebohm, Cat. B. Br. Mus. v. p. 89; Dresser, ii. p. 591, pl. 89; Saunders, p. 87; Lilford, iii. p. 42, pl. 21; *S. cariceti*, Naumann, Isis, p. 785, 1821.

Becfin aquatique, French; *Arandillo*, Span.; *Pagliarolo*, Ital.; *Binsen-Rohrsänger*, German; *Vandsanger*, Dan.

♂ *ad.* (France). Crown blackish brown, forehead reddish buff; superciliary and median stripes broad buffy white; upper parts greyish buff tinged with ochreous, each feather with a dark brown median patch; rump and upper tail-coverts washed with warm ochreous; wings and tail brown with light margins, inner secondaries darker and edged with buffy white; under parts white tinged with buff; sides of head and neck and hind-neck buffy grey with dark striations; lower throat and flanks striated with brown; bill brown, base of lower mandible yellowish; legs pale yellowish brown; iris dark brown. Culmen 0·4, wing 2·4, tail 1·95, tarsus 0·8 inch. The female resembles the male but the young have the upper parts washed with warm rufescent ochreous, and the underparts except the chin and the middle of the abdomen warm yellowish buff.

Hab. Inhabits central and southern Europe and North Africa, north as far as Denmark, and about 56° N. Lat. in Russia, east to the Ural, west to the Atlantic, straying rarely to Great Britain, and wintering in Africa.

The Aquatic Warbler frequents damp and marshy localities where the vegetation is rank and high, where patches of grass and flags are surrounded by water and morass, and small willow thickets are scattered round. It is active, restless, and very shy, and creeps through the dense vegetation with the greatest ease. It feeds chiefly on insects. Its call-note and song resemble those of the Sedge-Warbler, but the

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latter is shorter and scarcely so rich or varied. It breeds in May, and its nest, which resembles that of the Sedge-Warbler but is smaller, is constructed of plant-stems and bents, and a few rootlets, worked together with insect-webs and intermixed with plant-cotton, and lined with horsehair. The eggs 4 or 5 in number resemble those of the Sedge-Warbler, but are smaller and the ground colour is paler and yellower; they vary not a little, both in colouration and markings.

175. Sedge-Warbler.

ACROCEPHALUS SCHŒNOBÆNUS.

Acrocephalus schœnobœnus, (Linn.) Syst. Nat. i. p. 329 (1766); Newton, i. p. 376; Dresser, ii. p. 597, pl. 90, fig. 2; *A. phragmitis* (Naumann), iii. p. 648, Taf. 82, fig. 1; (Hewitson), i. p. 117. pl. xxi. fig. 3; Seebohm, Cat. B. Br. Mus. v. p. 91; Saunders, p. 85; Lilford, iii. p. 40, pl. 20.

Becfin phragmite, French; *Ruisiñor sylvestre*, Span.; *Forapaglie*, Ital. *Schilf-Rohrsänger*, German; *Rietsanger*, Dutch; *Sivsanger*, Dan.; and Norweg.; *Säfsångare*, Swed.; *Kaislakerttu*, Finn.; *Kisilovka*, Russ.; *Rokitnicza*, Polish.

♂ *ad.* (Asia Minor). Crown blackish brown, streaked with tawny brown; supercilium yellowish white; upper parts dull reddish brown clouded with dark brown; rump and upper tail-coverts rufescent tawny; quills and tail dark brown with lighter margins; chin, throat, and middle of abdomen whiter; rest of underparts pale buff; the flanks and under tail-coverts washed with rufous; bill dark brown, base of lower mandible yellow; legs pale brown; iris brown. Culmen 0·55, wing 2·65, tail 2·1, tarsus 0·82 inch; first primary small and narrow, shorter than the coverts, second rather longer than the 4th, third longest. In the winter the supercilium and underparts are more tinged with buff.

Hab. Europe and Asia; as far northward to Finmark, eastward to the Yenesei, Turkestan, and the Altai, west to Spain, along the Mediterranean Basin, Palestine, and the Crimea; wintering in Africa as far south as the Transvaal. In Great Britain in summer, up to the Isle of Skye, and Ireland.

Frequents dense thickets of aquatic plants, sedge, and reed-patches, and bushes skirting water, is restless, active, and lively in its movements; its flight is irregular and feeble and it seldom shows itself in open places. It feeds on aquatic insects, and in the autumn to some extent on berries. Its call-note, which is frequently uttered, to some extent resembles that of the Whitethroat; and its song though hurried is pleasant

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and musical and by no means wanting in depth or power. It breeds in May in dense patches of aquatic herbage, and its nest which is fastened to the dense growing stems of aquatic plants, is constructed of dry stems of grasses, fine rootlets, and often a little moss, and lined with fine bents, horsehair, feathers and sometimes wool. Its eggs from 4 to 6 in number are pale yellowish brown or warm buff, closely dotted with dark brown or greenish buff, and sometimes streaked with short hair-like lines of black. In size they average about 0·65 by 0·52.

LUSCINIOLA, Gray, 1841.

176. Thick-billed Warbler.

LUSCINIOLA AEDON.

Lusciniola aedon, (Pallas.) Reis. Russ. Reichs. iii. p. 695 (1776); (Schrenck), Reis. &c. Amurl. i. p. 367, Taf. xii. figs. 1, 2, 3; Seebohm, Cat. B. Br. Mus. v. p. 121; Tacz. J.f.O. 1873, Taf. (eggs) i.; Pleske, Prjevalsky's Reisen, ii. Taf. iii. fig. 1; id. Orn. Ross. ii. p. 381; (Oates), F. Brit. Ind. Birds, i. p. 390.

Tschok-tschok, Russ.

♂ (Dauria). Upper parts fulvous olive brown, rump brightest; quills and tail brown with fulvous brown margins; no eye-stripe; under parts buffy white, paler on the chin, throat, and abdomen; flanks, vent, and under tail-coverts washed with buff; upper mandible pale horn, under mandible flesh-colour; legs and eyelids plumbeous; iris amber brown. Culmen 0·8, wing 3·25, tail 3·4, tarsus 1·1; first quill 0·8 long, second intermediate between the 7th and 8th, 3rd and 4th nearly equal and longest. In the autumn the upper and under parts are washed with russet brown and in the young birds this tinge is more strongly developed. Sexes alike.

Hab. South-eastern Siberia from the Yenesei to the Pacific, and Northern China; wintering in India, Burma, Malacca, and the Andamans.

Frequents humid and marshy places, bushes or low trees close to water, or, on passage, bushes on the plains; extremely shy, it hides amongst the dense herbage on the least sign of danger. Its call-note resembles the syllables *tschok*, *tschok*, hence its Russian name, and its song is deep and melodious and is uttered throughout the day, but especially in the evening. It breeds in June, and places its nest from one to five feet above the ground on a willow or birch bush or a *Spiraea*. The nest is deep cup-shaped constructed of dry

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grasses and well lined with fine grass and sometimes horsehair. Its eggs 4 to 6, usually 5 in number, are rosy red, seldom rusty red, marked with pale brown or rusty yellow shell-blotches and fine twisted brown surface-streaks, sometimes pale rosy red without marking, and the surface is polished and smooth. In size they average about 23 by 16½ millimetres (0·91 by 0·65 inch).

177. Indian Hill Warbler.

LUSCINIOLA INDICA.

Lusciniola indica, (Jerdon.) Madr. Journal, xi. p. 6. (1840); Seebohm, Cat. B. Br. Mus. v. p. 126; Pleske, Orn. Ross. ii. p. 394; (Oates), F. Brit. Ind. Birds, i. p. 404.

♂ (India). Upper parts hair-brown, the rump tinged with yellow; wings and tail paler margined, the outer tail-feathers tipped with white; supercilium deep yellow shading into buff; sides of head washed with buff; underparts buffy yellow, dusky on the breast and flanks, the axillaries and under wing-coverts brown; bill and legs greenish yellow, the former blackish on the culmen; iris brown. Culmen 0·53, wing 2·5, tail 2·1, tarsus 0·75 inch; first primary 0·5 to 0·7, second about equal to or rather longer than the tenth. In the autumn the upperparts are tinged with olivaceous, and the underparts buffer. The young bird resembles the adult in autumn.

Hab.. The Himalayas, (Gilgit and Kashmir), Bokhara, Turkestan, and the Altai range, retiring for the winter to the plains of India as far south as Jalna in Hyderabad, and Chánda.

Like the *Phylloscopi* this Warbler frequents tree growth and also bushes in rocky and precipitous localities. I find nothing on record respecting its general habits or its nidification.

178. Dusky Warbler.

LUSCINIOLA FUSCATA.

Lusciniola fuscata, (Blyth), J.A.S. Beng. xi. p. 113 (1842); Seebohm, Cat. B. Br. Mus. v. p. 127; Pleske, Orn. Ross. ii. p. 398; (Oates), F. Brit. Ind. Birds, i. p. 405.

♂ (E. Siberia). Upper parts wings and tail brown, the wings and tail margined exteriorly with olivaceous brown; supercilium buffy white; cheeks and ear-coverts brown and pale buff intermixed; underparts white tinged with buff; the breast, flanks, axillaries, and under tail-coverts buff; bill dusky brown; the lower mandible yellowish except at the tip; legs

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dusky flesh; iris brown. Culmen 0·49, wing 2·45, tail 2·25, tarsus 0·9 inch; first primary 0·8 long, second intermediate between the 9th and 10th. After the autumn moult the upper parts are richer brown; the supercilium buff; and the breast, flanks, and under tail-coverts rich deep buff.

Hab. Northern Asia from the valley of the Yenesei to the Pacific Ocean, and Japan, China and Mongolia on passage, and winters in Southern China, Assam, Burma, Bengal, and the N. W. Provinces of India east of the longitude of Etawah.

Frequents low bushes on the plains and at low altitudes in the hills especially in damp localities, and is as a rule not shy. Its alarm-note resembles the syllables *tscheck-tscheck*, *tscheck*, and its song is simple though loud, and may be heard throughout the summer till the young are fledged. It breeds in June, and its nest, which is placed on the ground or in a low bush within a couple of feet from the ground, is oven-shaped with the entrance hole in the side, constructed of dry grasses and moss, and well lined with feathers. The eggs 4 to 6, usually 5 in number, are pure white, rather pointed at the smaller end, and in size average about 16·6 by 12·5 millimetres. (0·65 by 0·49 inch). The Cuckoo very frequently deposits its eggs in the nests of this Warbler.

179. Dybowski's Warbler.

LUSCINIOLA HOMEYERI.

Lusciniola homeyeri, (Dybowski), Bull. Soc. Zool. France, p. 358 (1883); Tacz. F. O. Sib. O. p. 275; Pleske, Ornith. Ross. ii. p. 409.

Differs from *L. fuscata*, in having a smaller bill, compressed laterally at the base; first primary nearly half the length of the second which equals the 8th. or is intermediate between the 8th and 9th; upper mandible horn-brown, paler on the edges, lower mandible yellowish; legs dark horn-brown.

This species is only known by two specimens obtained by Dr. Dybowski at Tigil in Kamchatka neither of which I have seen, and take the description from Mr. Pleske.

180. Armand's Warbler.

LUSCINIOLA ARMANDI.

Lusciniola armandi, (Milne-Edwards), Nouv. Archives. Mus. Bull. i. p. 22 (1865); Seebohm, Cat. B. Br. Mus. v. p. 130; Pleske, Prjevalsky's Reisen, ii. Vögel, p. 119, Taf. iii. fig. 2. Taf. v. fig. 10 (eggs); *L. davidii*, (Swinhoe), P.Z.S. 1871, p. 355.

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ad. Differs from *L. fuscata* in having the bill stouter, the throat and belly greenish white, and the feet more slender, first primary 0·7, second equal to or a trifle shorter than the 8th.

Hab. China and Mongolia, the Muniula mountains on the Tschurmyn river, and the upper Chuanche.

It does not occur in the mountain-forests in summer, but frequents the river-banks where there are dense bush-thickets, and breeds in the deciduous woods close to running water. It breeds in June and a nest was found by Prjevalsky in a barberry bush about five feet above the ground, which was round with the entrance hole in the side, and was constructed of dry grass lined with feathers of *Phasianus strauchi*. The 5 eggs were white, spotted with clay colour, and in size averaged 15·9 by 12·9 millimetres (0·63 by 0·47 inch).

181. Radde's Warbler.

LUSCINIOLA SCHWARZI.

Lusciniola schwarzi, (Radde), Reis. Sib. Vögel, p. 260, Taf. ix. figs, *a*, *b*, *c*, (1863); Seebohm, Cat. B. Br. Mus. v. p. 128; Pleske, Orn. Ross. ii. p. 388; Saunders, p. 73; Tacz. F. O. Sib. O. p. 276.

♂ *ad.* (E. Siberia). Upper parts dusky olivaceous brown, the rump tinged with tawny brown; wings and tail brown, externally margined with olivaceous brown; supercilium buff, strongly defined and reaching to the nape; lores and feathers behind the eye dark brown; ear-coverts buff and brown; underparts white tinged with pale buff; bill horn, fleshy white at the base, legs fleshy yellow; iris brown. Culmen 0·5, wing 2·45, tail 2·1, tarsus 0·9 inch; first primary more than half as long as the second, which is intermediate between the 7th and 8th, fourth and fifth longest. After the autumn moult the upper parts are tawny olive and the under parts are washed with tawny buff.

Hab. South-east Siberia from Transbaikalia to the island of Saghalien; and winters in southern China, Pegu, and northern and central Tenasserim; has occurred once in Lincolnshire.

It inhabits deciduous groves and the borders of forests where the bushes are dense. Its song is loud but short and not of a high quality. Nothing is known respecting its nidification.

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182. Moustached Warbler.

LUSCINIOLA MELANOPOGON.

Lusciniola melanopogon, (Temm.) Pl. col. 245, fig. 2 (1823) ; (Naumann), xiii. p. 456, Taf. 370, fig. 3 ; Dresser. ii. p. 605, pl. 90, fig. 1 ; Seebohm, Cat. B. Br. Mus. v. p. 132 ; (Oates), F. Brit. Ind. Birds, i. p. 369.

♂ *ad.* (Egypt). Crown and nape blackish edged with rufous brown ; upper parts rufous brown streaked with dark brown ; rump and upper tail-coverts plain rufous brown ; wings and tail brown externally margined with rufous brown ; under parts under wing-coverts and axillaries white ; the breast and flanks washed with buff ; superciliary stripe white and broad ; bill dark greenish brown above, lower mandible paler and fleshy at the base ; legs greenish brown ; iris brown. Culmen 0·52, wing 2·2, tail 2·1, tarsus 0·72 inch ; first quill 0·3 longer than the coverts, and 0·85 shorter than the second, which is 0·2 shorter than the 3rd which is about equal to the 4th and 5th.

Hab. Both sides of the Mediterranean as far north as central France, eastward through Asia Minor, the Caucasus, and Transcaspia to Persia and Turkestan, and in winter to India, In south Europe and north Africa it is a resident.

Frequents damp and marshy localities, especially dense reed-beds, where the herbage is so dense that it is difficult to work one's way through it, and being shy and unobtrusive it is most difficult to obtain this bird, for it creeps through the tangled herbage with the greatest ease, and but rarely ventures into the open. Its note is described as being a jarring sound.

It nests in Hungary and on the lower Volga in April and May. The nest is carefully concealed in bunches of, and amongst the roots of reeds, and is constructed of flat grasses and roots, and the eggs 4 to 5 in number resemble those of the Sedge-Warbler, but have a somewhat greener ground colour and are minutely spotted all over the surface with brown. In size they measure about 0·72 by 0·53.

183. Spotted Bush-Warbler.

LUSCINIOLA THORACICA.

Lusciniola thoracica, (Blyth), J.A.S. Beng. xiv. p. 584 (1845) ; Seebohm, Cat. B. Br. Mus. v. p. 124, pl. vi. fig. 1 ; Pleske, Orn. Ross. ii. p. 416 ; (Oates), F. Brit. Ind. Birds, i. p. 363 ; (Tacz.) F. O. Sib. O. p. 250 ; *Salicaria affinis*, Hodgs. in Gray's, Zool. Misc. p. 82 (1844 desc. mell.) ; (David and Oust.) Ois. Chine, p. 247.

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♂ *ad.* (India). Upper parts, wings and tail olive-brown tinged with rufous; lores and supercilium ashy white, sides of head and neck ashy brown; throat ashy brown spotted with black; chin and abdomen white; breast ashy; flanks and under tail-coverts dull reddish brown the latter tipped with dull white; bill dark brown the base of the lower mandible paler; legs pale fleshy; iris hazel. Culmen 0·5, wing 2·25, tail 2·5, tarsus 0·7 inch: first primary about half the length of the second which is equal to the 9th or 10th, 3rd, 4th, and 5th nearly equal and longest. In the winter the sides of the head and neck, the throat and breast are washed with ochreous and the spots on the throat are smaller. The young bird has the chin, throat, and abdomen dull yellowish tinged with green and the rest of the under parts dull ochreous brown and the throat is mottled or irregularly barred with brown.

Hab. Southern Siberia near Lake Baikal, north China, Kansu, Moupin, Nepal, Sikhim, and Kashmir.

Frequents dry localities, meadows, etc. where the vegetation is rich, and there are dense bushes, and also damp places. It is not shy and if disturbed will not fly far. Its song, which is generally uttered from a dead branch of a bush, is described as resembling the syllables *trschi-trschi-trschi-trschi.* It breeds early in July, and its nest, which is placed in the branches of a fallen tree covered with grass or in a heap of sticks is oven-shaped, constructed of dry grass and lined with the same but finer materials. The eggs 4 to 6 in number are white with a rose tinge, spotted and dotted with purplish ashy and purplish brown, the spots being more numerous round the larger end, and in size average about 18·46 by 13·1 millimetres (0·72 by 0·51 inch).

184. Large Billed Bush-Warbler.

LUSCINIOLA MAJOR.

Lusciniola major, (Brooks), J.A.S. Beng. xli. p. 77 (1872); (Oates), F. Brit. Ind. Birds, i. p. 362; Seebohm, Cat. B. Br. Mus. v. p. 124; Pleske, Prjevalsky's Reisen, ii. p. 123, Taf. i. fig. 5.

Chighchi, Turki.

♂ *ad.* (Gilgit). Upper parts dull light olivaceous brown washed with fulvous; wings and tail brown with margins like the back; supercilium buffy white, indistinct; chin and throat white spotted with brown; centre of abdomen white, the rest of the underparts ochraceous brown; under wing-coverts and axillaries buffy white; beak blackish; legs yellowish

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fleshy; iris brown. Culmen 0·65, wing 2·28, tail 2·6, tarsus 0·9 inch; first quill 0·25 longer than the coverts, second equal to the 10th, fifth longest.

Hab. Kashmir, and Mongolia where Prjevalsky obtained it in the Russki mountains at an elevation of 7,500 feet.

Frequents cultivated fields and grassy localities near ditches. Its song resembles the sound made by a spinning-wheel and is generally uttered from the grass, less often when the bird is on a bush. It is shy and difficult to flush as it creeps about and hides in the dense herbage with ease. Its nest and eggs are as yet unknown.

185. Taczanowski's Warbler.

LUSCINIOLA TACZANOWSKIA.

Lusciniolia taczanowskia, (Swinhoe), P.Z.S. 1871, p. 355; *L. intermedia*, (Oates), Str. Feath. ix. p. 220 (1880); Seebohm, Cat. B. Br. Mus. v. pl. vi. fig. 2 (hind figure); (Pleske), Orn. Ross. ii. p. 421, Taf. iii. fig. 5; (Oates), F. Brit. Ind. Birds, i. p. 363; *L. luteiventris*, (David and Oust.) Ois. Chine. p. 239 (1877).

♂ *ad.* (Burma). Upper parts and tail russet brown, the latter with lighter tips; wings plain brown, externally margined with russet brown; supercilium indistinct dull white; lores tinged with brown; ear-coverts hair-brown with paler shafts; cheeks white, the feathers generally tipped with brown; under parts white the breast flanks and under tail-coverts tinged with buff, the last with broad white tips; axillaries and under wing-coverts pale buffy white; bill dark brown; the base of lower mandible whitish; legs whity flesh; iris hazel. Culmen 0·55, wing 2·2, tail 2·4, tarsus 0·8 inch; first primary about one-third as long as the second which is intermediate between the 8th and 9th, third and fifth equal, the 4th rather longer. The young have the cheeks and underparts washed with deep yellowish buff, and the feathers on the throat tipped with dusky brown.

Hab. Eastern Siberia from the Transbaikal to the Ussuri, wintering in Burma.

Frequents paddy-fields and grassland where there are bushes, and is somewhat shy, skulking amongst the dense herbage. Its nest, which is placed in a bunch of grass near the ground, is tolerably well constructed of dry grasses, lined with similar but finer materials, and the eggs 4 or 5 in number resemble those of the Grasshopper-Warbler but are smaller.

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LOCUSTELLA, Kaup. 1829.

186. GRASSHOPPER-WARBLER.

LOCUSTELLA NÆVIA.

Locustella nævia, (Bodd.) Tabl. Pl. Enl. p. 35, No. 581 (1783); Newton, i. p. 384; Dresser, ii. p. 611, pl. 91; Saunders, p. 89; Lilford, iii. p. 44, pl. 22; *L. locustella*, (Lath.) Ind. Orn. ii. p. 515 (1790); Seebohm, Cat. B. Br. Mus. v. p. 115; (Naumann), iii. p. 701, Taf. 83, figs. 2, 3; (Hewitson), i. p. 112, pl. xxxi. fig. 1; "*L. avicula Ray*," Gould, B of E. pl. 103; id. B. of Gt. Brit. ii. pl. 78.

Becfin locustelle, French; *Heuschrecken-Sänger* German; *Sprinkhaan rietzanger*, Dutch; *Buskrörsmutte*, Dan.; *Forepaglie macchiettato*, Ital.; *Svertschok*, Russ.

♂ *ad.* (England). Upper parts olive-brown spotted with blackish brown; quills and wing-coverts margined with light olive-brown; tail dark olive-brown, much rounded; sides of head pale olive-brown; chin and abdomen white; throat, breast, and flanks pale olive-brown the former tinged with rufous; tail-coverts very long, pale brown with dark brown central stripes; bill dark; legs pale brown; iris brown. Culmen 0·55, wing 2·45, tail 2·25, tarsus 0·8 inch; first primary about equal to the coverts, second and fourth equal, third a trifle longer. Sexes alike. The young has the upper parts more boldly spotted, and the throat and upper breast are finely spotted with dark brown.

Hab. Central and southern Europe, north to Denmark, and, as a straggler to southern Norway and Karelen in Finland, east to Russia, and west to Spain; breeds in Great Britain and Ireland; winters in north Africa, and to some extent in south Europe.

Frequents bush-covered localities both in dry and swampy places, and has been found in bush-scrub on sandy, dry hillocks. Extremely shy and unobtrusive, it is not often seen, but is best recognised by its peculiar grasshopper-like note which it utters continually. It feeds on insects of various kinds which it captures either on the wing or amongst the foliage of bushes. Its nest, placed on the ground and carefully concealed amongst the herbage or in tangled brushwood, is cup-shaped, neatly constructed of grass-bents, moss, and a few leaves, and lined with finer bents; the eggs 5 or 6, rarely 7 in number, are deposited in May, and are rosy white minutely spotted with reddish brown, which in some is generally distributed over the surface of the egg, and in others collected round the larger end; measure about 0·75 by 0·55. A second brood is generally raised in the season.

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187. Eastern Grasshopper-Warbler.

LOCUSTELLA STRAMINEA.

Locustella straminea, (Severtzoff), Turk. Jevot. p. 66 (1873); Dresser, ix. p. 95, pl. 652; Seebohm, Cat. B. Br. Mus. v. p. 117; Oates, F. Brit. Ind. Birds, i. p. 354; *L. hendersoni*, (Cass.) apud. Hume. Str. Feath. vi. p. 340; Dresser, ii. p. 614.

♂ *ad.* (Ural). Differs from *L. nævia* in being smaller paler and more olivaceous in colour, the dark markings stronger defined, the under parts white, washed with buff on the breast and flanks; bill horn-brown, yellowish at base; legs dull yellowish flesh; iris brown. Culmen 0·55, wing 2·15, tail 1·95, tarsus 0·82 inch; first primary equal to the coverts, second intermediate between the 5th and 6th, third longest.

Hab. From the Ural range, through Turkestan to the Pamirs, breeding in the Ural, Transcaspia, and Turkestan, and wintering in the plains of India.

In habits it does not differ from its western ally, and its nest and eggs, of which I do not find any description, doubtless resemble those of that species.

188. Lanceolated Warbler.

LOCUSTELLA LANCEOLATA.

Locustella lanceolata, (Temm.) Man d'Orn. iv. p. 614 (1840); Dresser, ii. p. 617, pl. 92, fig. 2; Seebohm, Cat. B. Br. Mus. v. p. 118; Pleske, Orn. Ross. ii. p. 626; Oates, F. Brit. Ind. Birds. i. p. 353.

Pertouzi kritschal, Russ.

♂ *ad.* (E. Siberia). Upper parts dark olive-grey tinged with brown distinctly streaked with blackish brown; wings and tail dark brown margined with greyish brown; sides of the head pale olive-grey streaked with dark olivaceous; superciliary stripe dull white; under parts white tinged with ochreous and streaked with blackish brown, except the chin and abdomen; bill dark brown, the base of the lower mandible yellowish; legs fleshy white; iris dark brown. Culmen 0·5, wing 2·2, tail 1·83, tarsus 0·7 inch. Female similar but a trifle smaller. In the autumn dress the upper parts are tinged with reddish brown; very old birds have the under parts less striped, some being almost without stripes. Young birds have the under parts washed with ochreous, and have the upper parts more olivaceous in tinge.

Hab. Of very rare occurrence in Russia west of the Ural, but is generally distributed in Siberia as far east as Saghalien and

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north to Kamchatka; China on passage, and winters in Burma, and India as far west as Etawah, and south to the Andaman Islands.

Frequents damp, marshy localities, willow bushes, and reeds on the borders of water, and skulks closely amongst the dense herbage, so that it may almost be trodden on before it will rise, and runs rapidly along the ground. Its song, which may be heard throughout the day, is a piping vibrating sound resembling the note of a locust and sounds sometimes as if quite near, and at others as far away though the bird may be quite close. It feeds almost entirely on aquatic insects of various kinds. Its nest, which is placed in damp localities on the ground and most carefully concealed, is neatly constructed of dry grasses a little moss and small leaves, and lined with fine grasses. The eggs, usually 5 in number closely resemble those of the Grasshopper-Warbler but are smaller, averaging in size about 0·71 by 0·51.

189. Pallas's Grasshopper-Warbler.

LOCUSTELLA CERTHIOLA.

Locustella certhiola, (Pall.) Zoogr. Ross. As. i. p. 509 (1871); Gould, B. of E. ii. pl. 105; (Naumann), xiii. pt. 2, p. 91; Dresser, ii. p. 633, pl. 94; Seebohm, Cat. B. Br. Mus. v. p. 114; Oates, F. Brit. Ind. i. p. 352; Pleske, Orn. Ross. ii. p. 597; *L. rubescens*, Blyth, J. As. Soc. Beng. xiv. p. 582.

Camishevka-priatlivaya, Russ.

♂ *ad.* (E. Siberia.) Crown and nape dark brown striped with buffy grey; upper parts warm ochreous brown blotched with blackish brown, rump less marked; wings and tail brown with external lighter margins, the latter darker towards the tip, and tipped with greyish white; superciliary stripe greyish white; under parts white, the breast, flanks, and undertail-coverts washed with buff, the last tipped with white: bill brown, the under mandible ochraceous at the base; legs fleshy white; iris brown. Culmen 0·55, wing 2·8, tail 2·33, tarsus 0·9, inch. Sexes alike. Young birds have the upper parts darker, the under parts yellowish and the throat striated.

Hab. Siberia from the Yenesei to the Pacific, and from the mouth of the Amur to the Altai range; China on passage, and winters in Burma, India, and the Malay archipelago; has once occurred as far west as Heligoland.

Frequents marshes, swampy, bush-covered places on the borders of rivers, and places which are covered with long grass; is very shy and skulking in its habits, and when flushed flies

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but a short distance, and takes refuge in the dense herbage from which it is most difficult to dislodge it. Its nest is placed on the ground and is carefully concealed amongst the grass and dense herbage. The eggs 4 to 6, usually 5 in number, are deposited in June and are pale rose-coloured, finely dotted with pale brownish red, or pale rose with almost imperceptible dots, or sometimes they have fine hair-like blackish streaks, chiefly round one end; or occasionally the brownish red spots are more numerous round the larger end forming a wreath. In size they average about 0·76 by 0·54.

190. Middendorff's Grasshopper-Warbler.

LOCUSTELLA OCHOTENSIS.

Locustella ochotensis, (Midd.) Sib. Reise. ii. p. 185. pl. 16 fig. 7 and 8. (1853); Seebohm, Cat. B. Br. Mus. v. p. 113; Pleske, Orn. Ross. ii. p. 591, taf. iv. figs. 1, 2; *L. subcerthiola*, Swinhoe, Ibis, 1874 p. 154; *A. blakistoni*, id. Ibis, 1876, p. 332, pl. viii; *A dybowskii*, Ridg. Proc. U.S. Nat. Mus. vi. p. 92.

Shima- senniu, Jap.

♂ *ad.* (E. Siberia). Upper parts wings and tail russet brown obscurely marked with light brown, except on the upper wing coverts and inner secondaries where the markings are stronger; supercilium narrow and obscure; outer tail-feathers with a subterminal blackish band, and tipped with dull white; underparts white, the breast, flanks and undertail-coverts washed with brownish buff; bill dark horn, yellowish at the base of the lower mandible; legs pale rusty brown; iris brown. Culmen 0·7, wing 2·72, tail 2·3, tarsus 0·95 inch, first quill very small, second about equal to the fourth, third longest. Sexes alike; the young bird has the upper parts darker, the under parts washed with buffy yellow, and the throat and breast with indistinct darker markings.

Hab. The shores of the sea of Ochotsk, Kamchatka, the Kuriles and Bering's island, passing through Japan on migration, and wintering in the Malay archipelago.

It inhabits willow bushes and thickets in damp places, and is said to sing chiefly at night, uttering a song which is said to resemble the sharpening of a scythe, and is syllabled as *witsche, witsche, witsche, witsche.* It builds on the ground, amongst the grass, an open, cup-shaped nest of dried grass lined with feathers, and deposits in June 5 or 6 eggs, pale rose-coloured, unspotted, but marked with one or two fine blackish lines at the larger end, which sometimes form a wreath. In size they average about 0·8 by 0·57.

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191. Gray's Grasshopper-Warbler.

LOCUSTELLA FASCIOLATA.

Locustella fasciolata (Gray), P.Z.S. 1860, p. 349 ; Seebohm, Cat. B. Br. Mus. v. p. 109, pl. v. ; Pleske. Orn. Ross. ii. p. 564 ; *A. insularis*, Wallace, Ibis. 1862, p. 350.

♂ *ad.* (China). Upper parts wings and tail russet brown, crown and nape tinged with olivaceous, rump and upper tail-coverts more rufescent ; outer web of second primary pale brownish ; supercilium pale ashy and rather indistinct ; under parts pale ash-grey, the centre of the abdomen nearly white ; flanks washed with olive-brown, and under tail-coverts pale brownish ochraceous ; bill dark brown, under mandible ochraceous at the base ; legs brownish flesh-coloured ; iris nut-brown. Culmen 0·78, wing 3·1, tail 2·95, tarsus 1·1 inch ; first quill very small, shorter than the coverts, second about equal to the fourth, third longest. The young bird has the upper parts more olivaceous, and the under parts are maize yellowish in tinge.

Hab. Eastern Siberia from the Yenesei to the Ussuri ; Saghalien, Northern Japan ; occurs on passage in China and winters in the Malay archipelago.

Frequents places covered with high grass and bushes, and is shy and most difficult to flush, as it will not rise until almost trodden on and at once seeks refuge in the dense herbage, creeping through it on or close to the ground. Its song is loud, reminding one of a mazurka, and resembles the syllables *touti-routi, touti-routi*, and is uttered when the bird is on the ground. It sings chiefly at night, and but seldom during the day. It breeds in eastern Siberia but its nest and eggs are as yet unknown.

192. River-Warbler.

LOCUSTELLA FLUVIATILIS.

Locustella fluviatilis (Wolf.) Taschenb. Deutsch. Vogelk. i. p. 229 (1810) ; (Naumann), iii. p. 694 ; Taf. 83, fig. 1 ; Gould, B. of Eur. ii. pl. 102 ; Dresser, ii. p. 621, pl. 92, fig. 1 ; Seebohm, Cat. B. Br. Mus. v. p. 110.

Bec-fin riverain, French ; *Fluss-sänger*, German ; *Polussolovei, Savantscha*, Russ. ; *Virtakerttu*, Finn. ; *Strumeniovka*, Polish.

♂ *ad.* (Silesia). Upper parts wings and tail uniform dark olive-brown, sides of head paler, tail tinged with rufous ; an indistinct light mark passing through and behind the eye ; under parts white, the breast and lower

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throat striped with brown; under tail-coverts pale brown, with broad white tips; bill horn-brown, lower mandible yellowish at the base; legs dull flesh; iris dark brown. Culmen 0·52, wing 2·9, tail 2·5, tarsus 0·85 inch; first quill 0·2 shorter than the coverts, second and third nearly equal and longest. The young bird has the upper parts more rusty in tinge, the under parts tinged with ochreous, and the throat is also indistinctly striped.

Hab. Eastern Germany, Austria, and Hungary; Russia as far north as Central Finland, and about 60° N. Lat., in the Ural; wintering in Asia Minor, Palestine, and N. Africa.

Unlike the Grasshopper-Warbler the River-Warbler is more frequently to be met with in wooded districts than in marshes, and frequents thickets and meadows in the midst of large conifer woods, beech thickets, and pastures dotted with scattered bushes. Shy and secretive it usually seeks safety by dodging about amongst the rank herbage. Its call-note is low and harsh, and its cicada-like song which though usually commenced on the ground is continued from the top of a bush, is like the syllables *zi, zi, zi,* repeated for some time, and though not unlike that of the Grasshopper-Warbler may be distinguished by a practised ear. Its nest, which is placed on, or nearly on the ground amongst grass and brambles, in the woods, not in marshy places, is constructed of dry grass and leaves, lined with finer grass-bents and rootlets, and the eggs, usually 5 in number, are deposited late in May or in June, and are white minutely spotted with greyish lilac underlying shell-markings, and dark reddish-brown surface-spots or dots, and in size average about 0·78 by 0·54.

193. Savi's Warbler.

LOCUSTELLA LUSCINIOIDES.

Locustella luscinioides (Savi), Nuov. Giorn. Letter. vii. p. 341 (1824); (Naumann), xiii. p. 475, Taf. 370, figs. 4, 5; (Hewitson), i. p. 115, pl. xxxi. fig. 2; Gould, B. of E. ii. pl. 104; (id.) B. of Gt. Brit. ii. pl. 77; Newton, i. p. 389; Dresser, ii. p. 627, pl. 93; Seebohm, Cat. B. Brit. Mus. v. p. 112; Saunders, p. 91; (Lilford), iii. p. 46, pl. 23.

Fauvette des Saules, French; *Salciajola,* Ital.; *Weidenrohrsänger,* German; *Nachtegaal-Rietzanger,* Dutch; *Kamyschefka-solovjinaja,* Russ.; *Brzęczka,* Polish.

♂ *ad.* (England). Upper parts wings and tail reddish brown with a faint olive tinge, the head rather darker and rump lighter; tail with faint obsolete bars; throat and centre of abdomen white, rest of the under

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parts pale rufescent buff, the flanks and under tail-coverts pale reddish brown; bill brown, lower mandible paler; legs pale brown; iris dark brown. Culmen 0·6, wing 2·7, tail 2·5, tarsus 0·9 inch; first quill 0·15 less than the coverts, second longest, second and third quills much curved. The young bird has the upper parts greyer and the under parts whiter than the adult.

Hab. Great Britain and Europe from Spain to the Volga, and from Holland to the Mediterranean; North-west Africa; Asia as far east as Transcaspia and Turkestan wintering in Palestine and Northern Africa. Before the fens were drained it was not uncommon in England, but is now very rare.

A true marsh bird, this species is never found except in low damp places, densely covered with reeds, sedges, and low bushes, and is shy, keeping well concealed amongst the dense herbage, and reluctant to take wing. Its call-note is a low *krr*, and its song, which is uttered throughout the day, is a long smooth trill, pitched higher, but possessing more tone than that of the Grasshopper-Warbler. Its nest, which is placed low down amongst the sedges, is constructed of flag or sedge leaves, loosely and clumsily built, and the eggs, 4 or 5 in number, are deposited in May, and are dull white in colour closely dotted with bluish grey shell-markings and brownish surface-spots, and average in size about 0·78 by 0·61.

CETTIA, Bp. 1838.

194. Cetti's Warbler.

CETTIA CETTII

Cettia cettii (Marm.) Mem. Acad. Tor. xxx. p. 254 (1820); (Gould), B. of E. ii. pls. 114, 115; (Dresser), ii. p. 639, pl. 95; Seebohm, Cat. B. Brit. Mus. v. p. 135; Pleske Orn. Ross, ii. p. 634.

Bec-fin Bouscarle, French; *Mascareta, Buscale*, Span.; *Rossignuolo di padule*, Ital.

♂ *ad.* (Spain). Upper parts chestnut-brown, wings and tail blackish brown; supercilary stripe dull white; sides of neck greyish brown; under parts white, breast washed with grey, flanks, crissum, and under tail coverts brownish grey; bill dark brown; legs light brown; iris nut-brown. Culmen 0·55, wing 2·35, tail 2·55, tarsus 0·9 inch, first primary 0·63, shorter than second, which is 0·35 less than the third, 4th, 5th, and 6th about equal and longest; tail of ten feathers only, and much graduated; sexes alike. The young bird differs only in having the plumage laxer in texture.

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Hab. Southern Europe and north Africa from Portugal to Asia Minor, Palestine, Transcaspia, and Turkestan, east to the Central Asiatic desert region.

Unobtrusive and shy in its habits Cetti's Warbler is a difficult bird to watch. It frequents damp bush-covered localities, over-grown ditches, and also dry places in close proximity to water. Its song is clear and loud but short, and is like the first part of a Nightingale's song suddenly cut short, and it sings both by day and at night. Its nest is placed in a bush two or three feet from the ground, is deep, cup-shaped, constructed of small sedge-pieces, marsh-cotton and shreds of plants, and lined with fine grass, a few hairs and bits of cotton, and the eggs, 4 or 5 in number, are deposited in May, and are uniform bright brick red, sometimes with a pinkish tinge and average about 0·75 by 0·55 in size.

Mr. Oates considers the form which occurs in India to be specifically separable from our bird, in being larger and having the upper parts paler, but I do not agree with this view.

195. Chinese Bush-Warbler.

CETTIA CANTURIANS.

Cettia canturians (Swinhoe) Ibis, 1860, p. 52 ; Seebohm, Cat. B. Brit. Mus. v. p. 141; (Oates), F. Brit. Ind. Birds, i. p. 438 ; Pleske, Orn. Ross. ii. p. 644, Taf. iv. fig. 3 ; Tacz. F. O. Sib. O. p. 230 ; *Homochlamys luscinia* ; Salvad. Att. Accad. Sc. For. v. p. 511 (1870).

♂ *ad.* (China). Upper parts wings and tail russet brown, on the back tinged with olivaceous ; supercilium indistinct, buffy white ; under parts white, the breast, flanks, and under tail-coverts pale buffy brown ; bill above brown, below flesh colour ; legs pale brownish flesh ; iris hazel. Culmen 0·7, wing 3·0, tail 2·95, tarsus 1·1 inch ; first quill about half the length of the second, which is about equal to the secondaries, fourth and fifth about equal and longest. Sexes alike. In the autumn the upper parts are more russet in tinge, and the under parts are rather darker. The young resemble the adult in autumn dress, but the colouration of the plumage is more pronounced.

Hab. North China and the Ussuri country as far north as Lake Hanka, and winters in southern China.

It avoids the plains even where there is tree growth, and affects mountain districts where black birches grow, on the precipices which are covered with under-brush. Its alarm-note resembles the syllable *tek* frequently repeated, and its song

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though loud, is short and abrupt, and sounds as if the bird never did more than commence its song. It places its nest in a bush-covered ravine either on the ground or in a bush close to the ground. The nest resembles that of Savi's Warbler, but is deeper and not so wide, and is constructed of broader flags. The eggs resemble those of *Cettia cettii*, though rather darker, and are either unspotted or finely spotted with small spots scarcely darker than the ground colour, which occasionally form a wreath round the larger end. In size they average about 0·78 by 0·6.

196. Subsp. Cettia minuta.

Cettia minuta (Swinhoe), Ibis, 1860, p. 52; Seebohm, Cat. B. Br. Mus. v. p. 141: Pleske, Orn. Ross. ii. p. 650. Taf. iv. fig. 4; Tacz. F. O. Sib. O. p. 233.

♂ (China). Resembles *C. canturians*, but is smaller, and has the tail proportionately shorter, but the wing formula is the same. Culmen 0·6, wing 2·45, tail 2·15, tarsus 0·95 inch.

Hab. Hainan and South China, and as far north as the island of Askold in southern Ussuri land.

In its habits and note it is said to differ from the preceding species, but I do not find any description of either. Its nest and eggs are as yet unknown.

197. Japanese Bush-Warbler.

CETTIA CANTANS.

Cettia cantans (Temm. and Schlegel), Faun. Jap. Aves, p. 51. pl. xix. (1847); Seebohm, Cat. B. Br. Mus. v. p. 139; *S. cantillans* Temm. and Schlegel, Fauna. Jap. Aves, p. 52, pl. xx.

Ugiusu, Jap.

♂ *ad.* (Japan). Upper parts russet brown, paler on the rump, and upper tail-coverts rather paler; back washed with olivaceous; forehead rich russet brown; supercilium buffy white, rather indistinct; wings and tail brown externally, margined with russet brown; under parts white, washed with buffy brown on the breast flanks and under tail-coverts; axillaries pale yellow, under wing-coverts whiter; bill dark brown; under mandible pale horn at the base; legs pale horn; iris brown. Culmen 0·6, wing 2·6, tail 2·7, tarsus 0·9 inch; first quill rather more than half as long as the second, which about equals the tenth; fourth, fifth, and sixth nearly equal and longest. Female rather smaller. In the autumn the upper parts are more rufous, and the under parts somewhat darker.

Hab. Japan and Formosa, breeding near Yokohama in the mountains, and wintering in the plains.

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UROSPHENA, Swinhoe (1877).

198. SHORT-TAILED BUSH-WARBLER.

UROSPHENA SQUAMICEPS.

Urosphena squamiceps (Swinhoe), P. Z. S. 1883, p. 292 ; (Seebohm), Cat. B. Br. Mus. v. p. 142 ; Pleske, Orn. Ross. ii. p. 652. Taf. iv. fig. 5 ; (Oates), Faun. Brit. Ind. Birds, i. p. 442 ; (Tacz.) F. O. Sib. O. p. 225 ; *Cettia ussurianus*, Seebohm, op. cit. p. 143.

♂ *ad.* (E. Siberia). Upper parts, wings, and tail rich hair-brown, tinged with chocolate, the wings externally brighter margined, feathers on the head rounded ; supercilium buffy white, clearly defined ; lores and a streak between the supercilium and the ear-coverts dark brown ; ear-coverts and cheeks buffy white, the feathers tipped with brown ; under parts buffy white, the chin, throat, and middle of the abdomen pure white ; beak horn-brown, the lower mandible fleshy white at the base ; legs fleshy white ; iris dark brown. Culmen 0·53, wing 2·1, tail 1·05, tarsus 0·7 inch ; first quill rather less than half the length of the second, which is about equal to the eighth ; third, fourth, and fifth nearly equal and longest.

Hab. The southern Ussuri country and Japan, wintering in southern China, Formosa, and Tenasserim.

It arrives in the Ussuri country about the middle of May, and announces its presence by its continuous song, for it is extremely shy and secretive in its habits, and therefore seldom seen. It frequents dense under-brush and obtains its food, which consists of insects, on the ground. Its call-note resembles the syllables *chick, chick*, and its song, which is loud but simple, is continually raised and lowered in tone so that it is difficult to know where the bird is. Its nest is placed on the ground and its eggs, usually 4 in number, are deposited in June, and are white tolerably closely marked or blurred with red, with a brownish tinge, and measure about 0·67 by 0·52.

CISTICOLA, Kaup (1829).

199. FANTAIL WARBLER.

CISTICOLA CURSITANS.

Cisticola cursitans (Franklin), P. Z. S. p. 118, 1831 ; Dresser, iii. p. 3, pl. 96 ; (Oates), F. Brit. Ind. Birds, i. p. 374 ; "*Salicaria cisticola*," Temm. (Gould), B. of E. pl. 113 ; *Cisticola cisticola*, Sharpe, Cat. B. Brit. Mus. vii. p. 259 ; *C. brunneiceps*, Temm. and Schlegel, Faun. Jap. Aves. p. 134, pl. 20.

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Bec-fin cisticole, French; *Cagachin*, *Buitron*, Span.; *Becca moschino*, Ital.; *Cistenrohrsänger*, German; *Ghas-ka-phutki*, Hind.; *Senniu*, Jap.

♂ *ad.* (Corsica). Upper parts wings and middle tail-feathers blackish brown, with rufous buff margins to the feathers, rump and upper tail-coverts rufous buff, slightly marked with black; other tail-feathers brown, terminated with black, the lateral ones broadly tipped with white; under parts white, the breast washed with buff and the flanks with rufous; bill flesh colour, dark brown along the culmen; legs pinkish; iris light yellowish brown. Culmen 0·48, wing 1·9, tail 1·85, tarsus 0·75 inch. Female and young similar, but these latter are rather more fluffy in plumage, and the under parts are tinged with buffy yellow.

Hab. Southern Europe, Africa down to the Transvaal, Asia Minor to India, China, and Japan; the Malayan peninsula and islands.

Frequents grass-covered plains, fields, and localities covered with tangled herbage, both where the soil is wet and dry, and though not shy yet it is hard to dislodge from amongst the dense herbage through which it creeps with ease. It feeds on insects of various kinds, and casts up the indigestible portions in the form of pellets. Its call note is a harsh *teck, teck*, and its song which is uttered when the bird is perched on an exposed twig or long grass-stem, is poor and of little compass. It breeds from April to October according to locality, and its nest, which is a neat, deep, purse-shaped structure with the opening at the top, is constructed of fine dry grass-bents and rootlets, carefully lined with wool, hair, and fibres, and is attached to grass-stems or twigs, about a foot above the ground. The eggs, 4 or 5 in number, vary considerably, being either pale blue or white spotted with rufous, or occasionally pale pink unspotted. Usually the spots are more numerous at the larger end. In size they average about 0·62 by 0·45.

PRINIA, Horsf. 1821.

200. Streaked Wren-Warbler.

PRINIA GRACILIS.

Prinia gracilis (Cretzschm) in Rüpp. Atlas p. 3, tab. 2, fig. 6 (1826); (Dresser), iii. p. 13, pl. 97; (Sharpe), Cat. B. Brit. Mus. vii. p. 210.

♂ *ad.* (Adalia). Upper parts olivaceous grey, tinged with brown, streaked with blackish brown, the streaks being nearly obsolete on the rump; wings blackish brown, externally margined with olivaceous grey;

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tail brown, obsoletely barred, tipped with white, and with a subterminal blackish band; under parts silky white, with obsolete streaks on the throat; flanks washed with pale warm buff; bill plumbeous brown, the lower mandible flesh coloured at the base; legs flesh yellow; iris yellowish brown. Culmen 0·4, wing 1·7, tail 2·85, tarsus, 0·7 inch. Female similar but slightly smaller.

Hab. Asia Minor and Palestine, south to N. E. Africa and Arabia where it is resident. In India it is replaced by a very closely allied, if distinct, form, *P. lepida* Blyth, which is somewhat paler, and has the subterminal bars on the tail very indistinct.

Frequents fields, gardens, and marshes, is very active and restless, and is hard to flush from the dense vegetation it frequents. Its call-note is low and clear and when uttering it the bird often carries its tail quite erect; its song which is powerful and melodious is either uttered from a tall grass-stem or a twig, or else as the bird is hovering in the air. It feeds on small insects which it obtains amongst the foliage or on the ground. It breeds from May to August and builds an egg-shaped nest with the entrance hole at the side, of dried grass lined with plant-down, which it places in a low bush or a bunch of grass. The eggs, 4 or 5 in number, are pale greenish white, very closely and finely dotted with pale red, the dots being more numerous round either the larger or smaller end. In size they measure about 0·61 by 0·44.

SCOTOCERCA, Sundevall, 1872.

201. Streaked Scrub-Warbler.

SCOTOCERCA INQUIETA.

Scotocerca inquieta, (Cretzschm) in Rüpp. Atlas, p. 55, tab. 36, fig. B. (1826); Dresser, ix. p. 99, pl. 653, fig. 2; Blanf. E. Pers. ii. p. 207, pl. xiii. fig. 2; Sharpe, Cat. B. Br. Mus. vii. p. 213; *S. eremita* (Tristr.), Ibis, p. 76, 1867; *Melizophilus striatus*, Brooks, Ibis, 1872, p. 180.

♂ *ad.* (Baluchistan). Upper parts greyish hair-brown, the crown distinctly, the back indistinctly streaked with dark brown; wings and tail light brown, externally paler margined; lores and supercilium sandy buff; a spot before and a streak behind the eye blackish; sides of head greyish buff; under parts white, the throat streaked with blackish brown, the flanks washed with greyish buff; bill dark brown, the lower mandible

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orange-brown at the base; legs yellowish brown; iris brown. Culmen 0·45, wing 1·85, tail 1·65, tarsus 0·75 inch. Sexes alike.

Hab. Arabia Petræa, and Palestine, through Transcaspia and Persia to the west of the Indus.

Frequents stony desert places both bare and bush-covered, on the hills and plains, and is active and restless, tame and unsuspicious. Its food consists of insects, which it picks up on the ground and amongst the stones. Its call-note is harsh not unlike that of the Crested Titmouse, and its song, which is melodious, is somewhat Tit-like. It breeds in February or March and places its nest, which is globular, with the entrance hole on the side, constructed of dried grasses lined with plant-down or feathers, in a low bush close above the ground, and deposits 4 or 5 eggs, which are white, or pinky white, spotted with reddish pink or dark red, and in some the spots are collected and form a zone round the larger end. In size they average about 0·64 by 0·49.

202. Algerian Scrub-Warbler.

SCOTOCERCA SAHARÆ.

Scotocerca saharæ (Loche), Rev. and Mag. de Zool. p. 395, 1858, pl. xi. fig. 2; Sharpe, Cat. B. Brit. Mus. vii. p. 214; Koenig, J. f. O. 1892, p. 395, tab. iii.; id. J. f. O. 1895, tab. xiii. (nest and eggs); Dresser, ix. p. 103, pl. 653, fig. 1; *D. striaticeps*, Tristr. Ibis, 1859, p. 58.

Ad. (Algeria). Differs from the preceding species in being warm isabelline where that species is brown; bill pale brown, lighter and tinged with orange at the base; legs yellowish flesh; iris brown. Culmen 0·4, wing 1·75, tail 1·7, tarsus 0·75 inch.

Hab. Algeria and Tunis; in the Sahara or never far north of it.

In habits it does not differ much from that species but is said to be shy timid and unobtrusive. Its nest which is placed in a desert-bush, near the ground, is globular, constructed of fine grasses, plant-stems and grass-roots interwoven with spiders' webs, and lined with a few feathers; and the eggs are white with a dull gloss, spotted and blotched with dull red and with a few pale lilac ground-markings, and in many specimens the red spots are more numerous round the larger end. In size they average about 0·65 by 0·50.

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ARGYA, Lesson, 1831.

203. Palestine Bush-Babbler.

ARGYA SQUAMICEPS.

Argya squamiceps (Cretzschm) in Rüpp. Atlas, p. 19, Taf. 12 (1826); Dresser, iii. p. 23, pl. 98, fig. 2; Sharpe, Cat. B. Brit. Mus. vii. p. 395; *C. chalybeus.* Bp. C. R. xliii. p. 765.

♂ *ad.* (Palestine). Upper parts wings and tail greyish-dust-brown; feathers on the crown, sides of head and back with lighter margins and dark brown centres; under parts paler; the chin, centre of the throat and of the abdomen nearly white; feathers on the throat and breast with dark centres; flanks and under tail-coverts washed with warm buff; bill horn-brown, yellowish at the base; legs light brown; iris reddish brown. Culmen 1·0, wing 4·3, tail 5·7, tarsus 2·45 inch, outer tail-feather 2 inches shorter than the middle one. Sexes alike. The young bird resembles the adult, but the plumage is rather loose and lax.

Hab. Palestine and Arabia Petræa.

It is said to be sociable and noisy and usually collects in small parties. It runs on the ground with ease, and when followed runs from bush to bush. It frequents bush-covered places on the plains and feeds almost entirely on the berries of the zizyphus or jujube. Its nest which is a large clumsy structure, is built entirely of strips of bark and is placed in the middle of a thorn-bush, and the eggs, 4 to 6 in number, are usually deposited in April, are rich dark greenish blue and measure about 1·05 by 0·75.

204. Algerian Bush-Babbler.

ARGYA FULVA.

Argya fulva (Desfontaines) Mém. de l'Acad. Roy. Sci. 1787, p. 498, pl. xi.; Dresser, iii. p. 21, pl. 98, fig. 1; Sharpe, Cat. B. Brit. Mus. vii. p. 397; *Malurus numidicus*, Levaill, jr. Expl. Scient. Alg. Atlas, Ois. pl. 9 bis, fig. 1 (1850).

Ad. (Algeria). Upper parts, wings and tail rufescent isabelline, faintly tinged with brown; feathers on head and back with darker centres; wings and tail externally margined with pale isabelline; chin and upper throat white, the rest of under parts pale warm rufous isabelline; the middle of abdomen creamy white; bill blackish horn; legs pale brownish yellow with a green tinge; iris light brown. Culmen 0·9, wing 3·85, tail 5·5, tarsus 1·3 inch. Sexes alike.

Hab. Tripoli, Tunis, Algeria, and Morocco, where it is resident.

Frequents plains covered with bushes or low trees and is wary and extremely noisy and garrulous. It is usually seen in

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pairs or small parties and runs from bush to bush. Its food consists of insects, seeds, and small berries. Its note is very peculiar *chur-chur-r-r, wheer wheer wheer*. Its nest is a loose structure of sticks, fine roots, and straws lined with wool and feathers and is placed in a bush near the ground, and the eggs 3 or 4 in number are clear deep greenish blue.

205. INDIAN BUSH-BABBLER.

ARGYA CAUDATA.

Argya caudata (Duméril), Dict. Class. d'Hist. Nat. x. p. 219 (1826); (Hume and Henderson) Lahore to Yark., p. 197, pl. ix.; Sharpe, Cat. B. Brit. Mus. vii p. 393; (Oates), F. Brit. Ind. Birds, i. p. 106; *A. huttoni* (Blyth), J. As. Soc. Beng. xvi. p. 476 (1847); Blanf. E. Pers. ii. p. 203, pl. xiii. fig. 1: Sharpe, t. c. p. 394; *A. eclipes* (Hume), S. Feath. v. p. 337; Sharpe, t. c. p. 394.

Dumri, Chilchil, Peng, Hindu; *Huni*, Tam.

♂ *ad.* (India). Upper parts brown with a fulvous tinge streaked with dark brown; wings brown, the quills lighter on the outer web, the shafts dark; tail olivaceous brown darker barred, the shafts of the feathers dark; lores brown; ear-coverts rufescent; under parts pale fulvous, the chin, throat and middle of abdomen isabelline; sides of the breast slightly striated; bill light brown, yellow below at the base; legs yellow; iris brown. Culmen 0·7, wing 3·2, tail 4·7, tarsus 1·1 inch. Sexes alike.

Hab. Eastern and Southern Persia, Afghanistan, the whole of India proper, and the Laccadive and Ramesoaram Islands.

Frequents bush-covered localities, gardens, &c, and is generally found in small flocks and is often to be seen on the ground where it hops about in search of insects which form its chief food. Its flight is weak and peculiar, and seldom extended further than from bush to bush. It breeds late in March or early in April and places its nest in a tuft of grass or in a small bush or tree from three to four feet above the ground. The nest is deep cup-shaped neatly constructed of grass, fine roots, &c, and lined with the same materials or horsehair, and the eggs 3 or 4 in number are clear blue with a faint greenish tinge, unspotted, and in size average about 0.82 by 0.64.

RHOPOPHILUS, Gigl. and Salvadori, 1870.

206. CHINESE BABBLER.

RHOPOPHILUS PEKINENSIS.

Rhopophilus pekinensis (Swinhoe), Ibis, 1868, p. 62; Gould, B. of Asia, iv. pl. 3; David and Oust. Ois. Chine, p. 260, pl. 19; Sharpe, Cat. B. Br. Mus. vii. p. 117; Pleske, Prjevalsky's Reisen, Vögel, ii. p. 128.

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♂ *ad.* (Mongolia). Differs from *R. albisuperciliaris* in having the upper parts darker than that species, especially on the head; sides of the head and neck dark ashy; supercilium ashy grey; flanks more strongly striped with rufous and washed with vinous chesnut; bill brown, the lower mandible yellowish at the base; legs rufous; iris clear pale yellow. Culmen 0·55, wing 2·4, tail 3·7, tarsus 0·95 inch.

Hab. Mongolia, the Alaschan Mountains, the valley of the Chuanche, and Northern China.

It is a resident frequenting dense bushes amongst which it creeps with ease. Its flight is easy but it seldom flies far, usually only from bush to bush. Its song is sweet but of short duration. Nothing is so far as I can ascertain, as yet known of its nidification.

207. White-browned Babbler.

RHOPOPHILUS ALBISUPERCILIARIS.

Rhopophilus albosuperciliaris (Hume and Henders.), Lahore to Yark., p. 218, pl. xviii. (1873); Sharpe, Cat. B. Br. Mus. vii. p. 117; Pleske, Prjevalsky's Reisen, ii. p. 131; *R. pekinensis* var. *major*, Prjev. Mongol i Strana Tangut, ii. p. 32, No. 42 (1876); *R. deserti*, id. Izv. J. R. Geogr. Obtsch. xiii. p. 285.

♂ *ad.* (Yarkand). Upper parts sandy brown, clearly streaked with blackish brown; upper tail-coverts uniform; wings and tail brown margined with pale sandy brown, the outer tail-feathers terminated with white; lores and supercilium buffy white; ear-coverts isabelline; cheeks whitish, separated from the ear-coverts by a black stripe; under parts white, the sides of the breast and flanks streaked with pale rufous; bill dark brown, fleshy at the base below; legs flesh-coloured; iris dark brown. Culmen 0·6, wing 2·65, tail, 3·82, tarsus 0·9 inch.

Hab. Turkestan east to the valley of the Tarim and the Lobnor, where it is resident.

Frequents dense bush thickets amongst which it creeps like a mouse and appears to prefer those composed of *Halimodendron* and *Nitraria schoberi*. It runs swiftly on the ground amongst the roots of the bushes, where it probably obtains its food which consists chiefly at least in the autumn and winter of the berries of *Nitraria schoberi*. In the desert it is generally found on the oases where there are bushes. In flight it makes a noise with the wings reminding one of a Hazelgrouse rising. Its call-note is a whistle and a peculiar harsh sound, and its song which is clear and pleasing, is usually heard in the morning and evening as late as November. In the autumn and winter they

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range about in small parties of 3–7 individuals. It breeds in April and places its nest in a dense bush about four feet above the ground, and constructs it of grass straws sheep's wool and a few horsehairs. Prjevalsky found a nest in August containing young, but the eggs of this species are as yet unknown.

PTERORHINUS, Swinhoe, 1868.

208. David's Babbler.

PTERORHINUS DAVIDI.

Pterorhinus davidi, Swinh., Ibis, 1868, p. 61 : Gould, B. of Asia, iii. pl. 55 ; David and Oust. Ois. Chine, p. 187, pl. 50 ; Pleske, Prjevalsky's Reisen, ii. p. 133 ; Sharpe, Cat. B. Br. Mus. vii. p. 353.

Ad. (Mongolia). Upper parts uniform dark ashy brown ; a short supercilium dull brownish white ; wings brown, the primaries externally margined with pale lavender grey ; central tail-feathers like the back but darker towards the tip, the remaining ones blackish brown ; chin black ; rest of the under parts ashy brown, paler than the back ; bill yellowish, but brown at the base of the upper mandible ; legs liver brown. Culmen 1·05, wing 3·5, tail 5·05, tarsus 1·28 inch.

Hab. South-eastern Mongolia, Ordos, Alaschan, Kan-su, the Upper Chuanche, and the Mountains of North China.

Frequents bushes on the banks of the rivers and is found in the mountains to an altitude of 9,500 feet. In its general habits it is active and sprightly reminding one of *Rhopophilus*, and obtains its food chiefly on the ground. Its call-note is a loud musical whistle something like that of *Rhopophilus*, and its song which is heard chiefly in the morning and evening is short and consists of a few variations of the call-note. It breeds in Mongolia late in April or early in May. The nest is a somewhat loose structure of dry grass, rootlets, and twigs, and is placed in a dense bush not much above the ground. The eggs usually 3 in number are uniform glossy blue green, and measure about 1·1 by 0·75.

TROCHALOPTERUM, Blyth, 1843.

209. Elliot's Laughing Thrush.

TROCHALOPTERUM ELLIOTI.

Trochalopterum ellioti, Verr. Nouv. Arch. Mus. vi. Bull, p. 36 (1870) ; Gould, B. of Asia, iii. pl. 42 ; David and Oust. Ois. Chine, p. 202, pl. 57 ; Pleske, Prjevalsky's Reisen, ii. p. 135 ; Sharpe, Cat. B. Br. Mus. vii. p. 370.

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♂ *ad.* (Mongolia). Crown and nape ashy grey; rest of the upper parts olivaceous brown, the feathers on the rump tipped with rufous; quills dark ash, the secondaries bluish ash, the primaries with the outer web towards the end pale bluish ash, and at the base broadly margined with dark golden orange; tail dark ashy, margined with golden brown and conspicuously tipped with white; lores blackish, sides of head and throat ashy brown, the feathers narrowly tipped with dull white; rest of under parts earthy brown, the lower abdomen and under tail-coverts pale rusty red; bill black; legs rufous; iris yellowish white. Culmen 0·78, wing 4·15, tail 5·7, tarsus 1·42 inch.

Hab. South-eastern Mongolia, Western China, Szechuen, and Kansu, where it is resident passing the summer in the mountains as high as 11,000 feet and wintering at lower altitudes.

It resembles *Pterorhinus davidi* in general habits and note and like that species frequents bush-covered localities in the mountains and mountain valleys. It is sociable and usually seen in small parties of 4 to 7 and creeps and climbs about the bushes with the greatest ease. Its call-note resembles that of *P. davidi* but when alarmed it utters a note like *prys, prys, prys*. In summer it feeds chiefly on the berries of a species of *Lonicera*. Its nest is usually placed in a barberry bush as high as 7 feet above the ground or lower, and is constructed of strips of birch and *Lonicera* bark, lined with fine roots, and is a loose careless structure. The eggs, usually 4 in number, are blue green marked at the larger end with blackish brown dots, spots, and scratches.

ACCENTOR, Bechst. 1802.

210. Alpine Accentor.

ACCENTOR COLLARIS.

Accentor collaris (Scop.), Ann. i. Hist. nat. p. 131 (1769); Newton, i. p. 296; Dresser, iii. p. 29, pl. 99; Sharpe, Cat. B. Br. Mus. vii. p. 661; Saunders, p. 95; Lilford, iii. p. 2, pl. i.; *A. alpinus*, Naumann, iii. p. 940, Taf. 92, fig. 1; Hewitson, i. p. 96, pl. xxvii. fig. 2; Gould, B. of E. pl. 99; id. B. of Gt. Brit. ii. pl. 54.

Fauvette des Alpes, French; *Alpen Flühvogel*, German; *Serrano*, Span.; *Sordone*, Ital.

♂ *ad.* (Alps). Upper parts dull ashy grey, head and neck striped with darker grey, and back with dark brown; quills dark brown, externally margined with ashy brown and tipped with white, inner secondaries and scapulars with inner web margined with rufous; wing-coverts blackish

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with apical white spots; tail dark brown all but the centre feathers with a white terminal patch on the inner web; chin and throat white, spotted with black; rest of the under parts ashy grey, the flanks light chestnut red, margined with white; under tail-coverts blackish brown tipped with white; bill blackish brown, yellowish at the base; legs cinnamon brown; iris brown. Culmen 0·55, wing 4·1, tail 2·9, tarsus 1·0 inch. Sexes alike, but the young have the feathers on the back with rufous margins, the under parts are duller and the spotted white gorget is absent.

Hab. The mountains of Central and Southern Europe east to Asia Minor; has occurred as far north as Heligoland and has been obtained on several occasions in Great Britain.

Frequents high mountains in the summer as high up as the snow-line, and descends into the valleys in the winter. It is not shy and hops about amongst the stones and bushes like our Hedge-sparrow, and has been found in small flocks not only in the winter but in colonies in the breeding season. It feeds on insects of various kinds and seeds of alpine plants. Its call-note resembles the syllables *tri, tri, tri*, and its song is a rich liquid *chick, ich, ich, ich.*

Its nest, which is placed under the ledge of a rock or under a low bush on the ground, is constructed of grass-bents, roots, and a few lichens, or moss, lined with the same materials or occasionally a few feathers. The eggs 4–5 in number are usually deposited in June and resemble those of the Hedge-sparrow (*A. modularis*), but are larger, measuring about 0·92 by 0·64.

211. Subsp. Accentor erythropygius.

Accentor erythropygius (Swinhoe), P. Z. S., 1870, p. 124, pl. 9; Gould, B. of Asia, iv. pl. 43; David and Oust, Ois. Chine, p. 178; Sharpe, Cat. B. Br. Mus. vii. p. 663; Tacz. F. O. Sib. O. p. 221.

Ad. (E. Siberia). Differs from *A. collaris* in having the head and neck slightly darker, the flanks more rufous, and the rump and upper tail-coverts dull rusty instead of grey. Culmen 0·52, wing 4·25, tail 3·22, tarsus 0·95 inch.

Hab. The mountains of Eastern Siberia, and as far south as near Pekin; also Japan.

In general habits it does not differ from *Accentor collaris* and also inhabits rocky mountainous localities at considerable elevations, retiring down into the valleys or passing further south in the late autumn. It breeds in the Chamardaban mountains in the southern Baikal district, and its nest and eggs doubtless resemble those of *A. collaris*, but so far as I know they have not yet been obtained.

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212. Subsp. Accentor rufilatus.

Accentor rufilatus, Severtz. Zap. Turk. Otd. i. p. 45 (1879); Sharpe, Cat. B. Br. Mus. viii. p. 664; Pleske, Prjevalsky's Reisen, ii. p. 140, Taf. iv. fig. 4.

Ad. (Turkestan). Differs from *A. collaris* in having the scapulars rusty red, the rump unstriped, and the flanks deep rusty red; bill blackish, the lower mandible yellowish at the base; legs brownish flesh; iris brown. Culmen 0·6, wing 3·9, tail 2·5, tarsus 0·9 inch. First quill shorter than the coverts, second equals the sixth, the third, fourth, and fifth longest.

Hab. Turkestan to the neighbourhood of Gilgit and Northern Kashmir.

Nothing is on record respecting its general habits which probably do not differ from those of *A. collaris*, and its nest and eggs are as yet unknown, but it is said to breed in July in Turkestan.

213. Himalayan Accentor.

ACCENTOR HIMALAYANUS.

Accentor himalayanus, Blyth, J. As. Soc.-Beng. xi. p. 187 (1842); Oates, F. Brit. Ind. Birds, ii. p. 168; *A. altaicus*, Brandt, Bull. Soc. St. Petersb. i. p. 365 (1843); Gould, B. of Asia. iv. pl. 49; Sharpe, Cat. B. Br. Mus. vii. p. 660.

Ad. (Altai). Somewhat resembles *A. collaris*, but has the upper parts browner in tinge of colour; the back and scapulars are black, margined with rufous; upper tail-coverts and tail dark brown, margined with rufous; middle of chin and throat white, the sides banded with white, the feathers on the lower part tipped with black forming a small collar; feathers of the rest of under parts rusty red, margined with white, the middle of the abdomen nearly pure white; bill black, fleshy at the base; legs fleshy brown; iris red. Culmen 0·48, wing 3·7, tail 2·4, tarsus 0·85 inch. Sexes alike. The young bird has less black on the back and the rufous is duller; the throat is dull while spotted with grey; the breast dull yellowish buff striped with brown, and the rest of the under parts are dull isabelline, the under tail-coverts brown in the middle.

Hab. The Altai range, eastern Siberia, Turkestan, the Baikal mountains, and the Himalayas from Chamba and Gilgit to Sikhim; resident almost throughout its range descending to lower altitudes for the winter.

In general habits it agrees closely with *Accentor collaris*, and like that species frequents wild rocky localities in the mountains. Its nest and eggs are, so far as I know, not known but probably resemble those of *A. collaris*.

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214. Rufous-breasted Accentor.

ACCENTOR STROPHIATUS.

Accentor strophiatus, Hodgson, J.A.Soc. Beng. xii. p. 959 (1843); Gould, B. of Asia, iv. pl. 47; Oates, F. Brit. Ind. Birds, ii. p. 171; Sharpe, Cat. B. Br. Mus. vii. p. 658; *A. multistriatus*, David Ann. and Mag. Nat. Hist. (4) vii. p. 256 (1871).

Phooching-pho, Lepch.

♂ *ad.* (Himalayas). Entire upper parts rufous brown broadly streaked with black; wings and tail dark brown, the former externally margined with rufous; lores cheeks and ear-coverts black; a broad white supercilium in front of the eye, rich rusty behind, above margined with black; chin and throat white spotted, chiefly on the sides, with black; breast deep rusty red; middle of abdomen whitish; rest of the under parts reddish brown streaked with black; bill black; legs reddish brown; iris dark brown. Culmen 0·58, wing 2·55, tail 2·3, tarsus 0·8 inch. Female similar but has the breast streaked with black.

Hab. The Himalayas from Sikhim and Nepal to Kotgarh, Tibet, the mountains in the province of Kan-su, and the upper Chuanche.

Frequents wild rocky localities at considerable altitudes during the summer, retiring to the valleys or in some cases further south at the approach of winter. Its nest, which is placed on the ground amongst tufts of grass, is constructed of fine roots and moss, lined with sheep's wool and yakshair, and its 3 or 4 eggs are pale sky blue, spotless, measuring about 0·74 by 0·54. The breeding season is from May to August.

In the Himalayas from Gilgit to Mussoore a nearly allied species *A. jerdoni*, Brooks, occurs, which differs in having the back only and not the head and neck striped, and the hinder part of the supercilium and breast are pale rufous, not deep ferruginous.

215. Redbreasted Accentor.

ACCENTOR RUBECULOIDES.

Accentor rubeculoides, Moore, P.Z.S. p. 118, 1854 (ex. Hodgs. MSS.); Gould, B. of Asia, iv. pl. 46; Sharpe, Cat. B. Br. Mus. vii. p. 657; Oates, F. Brit. Ind, Birds. ii. p. 169; Pleske, Prjevalsky's Reisen, ii. p. 147.

♂ *ad.* (Sikhim). Head and neck greyish brown; back scapulars and rump reddish brown broadly streakod with black; upper tail-coverts plain brown; tail brown with paler margins; quills brown with rufous margins,

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the inner secondaries and wing-coverts darker with broad rufous margins, the latter tipped with white; chin and throat ashy brown with darker bases; breast deep ferruginous; abdomen whitish; flanks and under tail-coverts pale rufous streaked with brown; bill black; legs reddish brown; iris pale brown. Culmen 0·6, wing 3·25, tail 2·9, tarsus 0·9 inch. Sexes alike.

Hab. The Himalayas from Eastern Kashmir and Ladak to Sikhim, Tibet, and the Koko-nor and Tetung mountains in Mongolia, where it is resident.

It passes the summer in high altitudes descending to the valleys in the winter. Its song is said to resemble that of *Ruticilla aurorea*, but has a peculiar tone like the rustling of dry leaves. According to Prjevalsky it breeds in the mountains of Kan-su, on the upper Chuanche and on the Dy-tschu river but its nest and eggs are, so far as I know, as yet undescribed.

216. Black-throated Accentor.

ACCENTOR ATRIGULARIS.

Accentor atrigularis, Brandt. Bull. Acad. St. Petersb. ii. p. 140 (1844); Gould, B. of Asia, iv. pl. 48; Sharpe, Cat. B. Br. Mus. vii. p. 606; Pleske, Prjevalsky's Reisen, ii. p. 156; Dresser, ix. p. 109, pl. 654, fig. 2; Oates, F. Brit. Ind. Birds, ii. p. 170; *A. huttoni*, Moore, P.Z.S. p. 119, 1854.

♂ *ad.* (Turkestan). Upper parts ashy hair-brown, striped with blackish brown, the crown darker, the sides blackish; rump plain brown; wings and tail brown, margined with fulvous; superciliary stripe buff; throat and sides of the head black; rest of under parts ochraceous buff, the flanks and under tail-coverts striped with brown; abdomen nearly white; bill blackish brown, fleshy at the base; legs fleshy brown; iris dark brown. Culmen 0·5, wing 2·95, tail 2·7, tarsus 0·82 inch. Female slightly duller in colour. In the winter the black on the throat is obscured by buffy white margins.

Hab. The Kirghis steppes, Turkestan, Samarkand, the Altai range, occurring as far west as Orenburg, ranging in winter to Afghanistan, the N. W. Himalayas, and the Punjab salt range.

They are usually seen in pairs and are not shy. Scully met with it in winter in orchards where they were running about on the sward near rose-bushes. It is said to breed in the Altai range and Eastern Turkestan, but so far as I can ascertain there is no authentic record of its nidification. Eggs said to belong to this species resemble those of *Accentor modularis*.

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217. Brown Accentor.

ACCENTOR FULVESCENS.

Accentor fulvescens, Severtzoff, Turk. Jevot. pp. 66, 132 (1873); Sharpe, Cat. B. Br. Mus. vii. p. 655; Dresser, ix. p. 105, pl. 654, fig. 1; Pleske, Prjevalsky's Reisen, p. 145; Oates, F. Brit. Ind. Birds, ii. p. 171; Tacz. F. O. Sib. O. p. 220; *A. dahuricus*, Tacz. Bull. Soc. Fr. 1876, p. 144; *A. ocularis*, Radde, Orn. Cauc. p. 244, pl. xiv.

♂ *ad.* (Turkestan). Resembles *A. montanellus*, but the back is pale fulvous brown, the flanks uniform, unstriped or very slightly so, and the under parts paler, the throat nearly white. Culmen 0·5, wing 3·05, tail 2·6, tarsus 0·8 inch. Female slightly duller in colour, and the supercilium narrower. In the autumn the plumage is paler and duller and the under parts are warmer clay-buff in tinge.

Hab. Siberia (Irkutsk and the Argun River), Turkestan, Mongolia, and Tibet; the Himalayas; Sikhim in winter.

In habits it is said to resemble *A. montanellus*, and frequents similar localities. Nothing is known respecting its nidification.

218. Mountain Accentor.

ACCENTOR MONTANELLUS.

Accentor montanellus, (Pall.) Reis. Russ. Reichs. iii. p. 695 (1776); Naum. iii. p. 949, taf. 92, fig. 2; Gould, B. of E. ii. pl. 101; id. B. of Asia, iv. pl. 41; Dresser, iii, p. 35, pl. 100; Sharpe, Cat. B. Br. Mus. vii. p. 653; *A. temminckii*, Brandt, Bull. Acad. N. Sc. St. Petersb. ii. p. 39.

♂ *ad.* (Siberia). Upper parts rufous, streaked with greyish brown, the crown plain ashy brown, the rump ashy brown, also unstreaked; wings dark brown the feathers margined with dull chestnut; tail ashy brown with paler margins; sides of the crown, lores, sides of the head and ear-coverts black; a broad yellowish buff band passes over the eye round the ear-coverts to the neck joining the same colour on the sides of the throat; under parts ochreous buff, the abdomen nearly white; flanks and under tail-coverts striped with brown; bill blackish; legs light brown; iris yellowish brown. Culmen 0·5, wing 2·85, tail 2·6, tarsus 0·75 inch. Female rather duller and paler, and the summer plumage is paler than that assumed in the autumn.

Hab. From the Ural through Siberia as far east as the sea of Japan, south to Southern Russia, Turkestan, Mongolia,

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N. China and Corea; as a straggler has been met with in Austria.

Frequents bush-covered localities, gardens, and the borders of streams in the valleys, and in general habits does not differ much from the Hedge Accentor. Its call note is a low whistle and its song is short and unpretentious but pleasant, and the Chinese near Peking keep it as a cage bird. It breeds in Siberia, and its nest and eggs have been taken on the Yenesei. The nest, which is constructed of small twigs and dry grass lined with moss and a few hairs, is placed either low down, in the stump of an old tree near the ground, or as high as about eight feet above the ground in the fork of a willow, and the eggs 4 to 6 in number closely resemble those of the Hedge Accentor.

219. Hedge-Sparrow.

ACCENTOR MODULARIS.

Accentor modularis, (Linn.) Syst. Nat. i. p. 329 (1766); Naum. iii. p. 951, Taf. 92, figs. 3, 4; Hewitson, i. p. 97, pl. xxvii. fig. 1; Gould, B. of E. ii. pl. 100; id. B. of Gt. Brit. ii. pl. 55; Newton, i. p. 301; Dresser, iii. p. 39, pl. 100; Sharpe, Cat. B. Br. Mus. vii. p. 649; Saunders, p. 93.; Lilford, iii. p. 4. pl. 2; *A. orientalis*, Sharpe, op. cit. p. 652.

Mouchet, French; *Churruca*, Span.; *Passera scopaiola*, Ital.; *Hecken-Braunelle*, German; *Boeren-Nachtegall*, Dutch; *Brunellen*, Dan.; *Jernspurv*, Norweg.; *Jernsparf*, Swed.; *Rautiainen*, Finn.; *Lisnaya-Zavirooshka*, Russ.

♂ *ad.* (England). Upper parts reddish brown streaked with dark brown, the head and nape greyer, the rump dull olive-brown scarcely streaked; wings and tail brown, the former margined with buffy brown and rufous brown, the wing-coverts tipped with yellowish brown; throat greyish white; sides of head and neck, and the breast ashy grey; ear-coverts washed with brown; abdomen greyish white; flanks pale brown streaked with darker brown; bill blackish brown, fleshy at the base; legs dull yellowish brown; iris dark brown. Culmen, 0·5, wing 2·7, tail 2·2 tarsus 0·75 inch. Sexes alike.

Hab. Europe generally, north to Lapland; North Africa; Arabia, Asia Minor, and east to Persia.

Frequents groves, gardens, &c., and is very tame and familiar, frequenting localities inhabited by man, and is one of our best-known birds. It is generally seen creeping about in the hedge-rows where it finds a plenteous supply of small insects and

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seeds which form its food. Its song is short but clear and pleasantly modulated. It breeds from March to May and its nest, which is usually placed in a hedge or bush, is constructed of dry grass and moss, and lined with hair or wool. The eggs from 5 to 6 in number are glossy greenish blue unspotted and average about 0·78 by 0·54 in size. Two broods are usually raised in the season.

Dr. Sharpe has (l.c.) separated the Persian bird from the European, naming the former *A. orientalis*, but I cannot find any specific difference between birds from these two localities.

220. Japanese Accentor.

ACCENTOR RUBIDUS

Accentor rubidus, Temm. and Schlegel. Faun. Jap. p. 69, pl. 32 (1850); Sharpe, Cat. B. Br. Mus. vii. p. 652; Seebohm, B. Jap. Emp. p. 56; *A. fervidus*, Sharpe, tom. cit. p. 653.

♂ *ad.* (Japan). Differs from *A. modularis* in having the head and neck uniform reddish brown, unstriped; the back rufous, marked with blackish brown, the under parts dull brownish grey; clearer on the abdomen, the flanks not streaked; bill blackish; legs brownish flesh; iris hazel. Culmen 0·53, wing 2·6, tail 2·2, tarsus 0·75 inch. Sexes alike.

Hab. Northern Japan where it is resident.

In habits the Japanese bird does not differ greatly from our European Hedge-Sparrow. It is found in the plains and also on the mountains as high as 8,000 feet, and frequents the scrub-willows, and has a sparrow-like chirping note. Its breeding habits and nest do not differ from those of the European form.

221. Koslov's Accentor.

ACCENTOR KOSLOVI.

Accentor koslovi, Prjev. Novi. bidi. ptitz. Centr. Asie. Zap. Imp. Akad. Nayk, lv. p. 83 (1887); Pleske, Prjevalsky's Reisen, ii. Vög. p. 143; *A. pallidus*, Menzbier, Ibis, 1887, p. 299, pl. ix.

Ad. Upper parts brownish isabelline striped with dark brown, these being paler on the head and nape; rump unstriped; wings and tail brown externally margined with brownish isabelline; two white bands cross the wing; throat brownish smoke-grey with whitish tips to the feathers; ear-coverts slightly yellower than the throat, rest of under parts dirty white, the feathers on the breast brown at the base; flanks striped with brownish isabelline; bill brown paler below and at the base; legs flesh coloured;

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iris light brown. Culmen 0·55, wing 2·91, tail 2·87, tarsus 0·82 inch; second quill equal to the 7th or sometimes longer, 4th and 5th longest. Sexes alike, but the young have the brown on the upper and under parts more pronounced.

Hab. N.W. Mongolia; Alaschan, Urga, Kobdo, and the Gobi district.

Nothing is on record respecting its habits or nidification; but it is supposed to breed in southern Siberia and in the wooded mountains bordering the Gobi, such as the Alaschan and Muni-ula ranges.

PANURUS, Koch, 1816.

222. Bearded Reedling.

PANURUS BIARMICUS.

Panurus biarmicus, (Linn.) Syst. Nat. i. p. 342 (1766); (Naum.) iv. p. 98, Taf. 96; (Hewitson), i. p. 161, pl. xl. fig. 3; (Gould), B. of E. iii. pl. 158; (id.) B. of Gt. Brit. ii. pl. 30; Newton, i. p. 511; (Dresser), iii. p. 49, pl. 102; Gadow, Cat. B. Br. Mus. viii. p. 77; Saunders, p. 99; Lilford, ii. p. 93, pl. 43.

Mésange à moustaches, French; *Bigotudo, Chahuet*, Span.; *Basettino*, Ital.; *Bart-Rohrmeise*, German; *Bardmannetje*, Dutch; *Skjægmeise*, Dan.; *Usataya-sinitsa*, Russ.

♂ *ad.* (Holland). Head clear blue-grey; lores, a demi-eyebrow and an elongated moustache black; back rich fawn; scapulars white tinged with fulvous; quills brown margined with white and fawn; primary and median coverts black, edged with white and fawn; tail rusty red the external feathers edged and tipped with grey; throat and upper breast greyish white, the sides of the latter delicate pink; abdomen fulvous white; flanks fawn; vent and under tail-coverts black; bill and iris orange-yellow; legs black. Culmen 0·35, wing 2·35, tail 3·3, tarsus 0·75 inch. The female lacks the black moustache and has the vent and under tail-coverts fawn, the upper parts greyish fawn tinged with rufous, the under parts duller than in the male, the lores and cheeks dirty white, and the throat and abdomen greyish white. The young bird resembles the female but has the crown and back striped with black.

Hab. Europe as far north as southern Denmark and Great Britain, south to the Mediterranean; Asia Minor, southern Russia, east to Turkestan and Mongolia, where it has been obtained on the Koko-nor. In England it is now rare, except on the Norfolk Broads, and resident.

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Frequents marshes and fens where there are large reed-beds, and feeds on aquatic insects in summer and seeds, chiefly those of the common reed, in winter. Its flight is short and low, only just clearing the reed-tops. Its note is musical, and has been described as *ping, ping* and *zit, zit*, and during the breeding-season *zit-zrrrr*.

It breeds in April and again in July or early in August. The nest is placed amongst the reeds close to the ground, constructed of dry grasses and reed-fibres, lined with the same but finer materials; is round, the opening small. The eggs, from 4 to 6 or even 7 in number, are white, sparsely covered with irregular reddish brown scratches, and measure about 0·73 by 0·55.

Eastern birds are considerably paler than those from the west, and are by some naturalists considered as subspecifically separable, the eastern form having been named, *P. sibericus* (Bp.), Compt. Rend., 1856, p. 414.

ACREDULA, Koch, 1816.

223. Longtailed Titmouse.

ACREDULA CAUDATA.

Acredula caudata, (Linn.) Syst. Nat. i. p. 342 (1766); (Naum.) iv. p. 84, Taf. 95, figs. 4, 5, 6; (Gould), B. of E. pl. 157; Dresser, iii. p. 67, pl. 104; Gadow, Cat. B. Br. Mus. viii. p. 59; Saunders, p. 101; Lilford, ii. p. 110, pl. 50; (Tacz.) F. O. Sib. O. p. 443; Seebohm, B. Jap. Emp. p. 87.

Mésange à longue queue, French; *Codona capo bianco*, Ital.; *Schwanzmeise*, German; *Staartmees*, Dutch; *Stjertmeise*, Dan.; *Stjärttita*, Norweg.; *Stjertmes*, Swed.; *Pyrstötiainen*, Finn.; *Dolgovostaya sinitchka*, Russ.

♂ *ad.* (Sweden). Head snowy white; hind neck and back black, the latter with the sides and scapulars vinous red, and the lower part and rump pale rosy red; upper tail-coverts black; wings and tail blackish brown externally margined with white, the outer tail-feathers broadly terminated with white; under parts white washed with vinous on the flanks and under tail-coverts; bill and feet black; iris brown; ring round the eye lemon-yellow. Culmen 0·3, wing 2·5, tail 3·5, tarsus 0·6 inch. Sexes alike. The young have the upper parts brownish black, the centre of the crown white, and the under parts duller than in the adult.

Hab. Northern and central Europe, extending across N. Asia to Kamchatka and Japan, in winter ranging into southern Europe, and occurs as a rare straggler in Great Britain.

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In the summer it frequents woods and groves, and in the autumn and winter it collects in family parties or small flocks, and ranges about in the woods and in gardens uttering, when on the wing, a continuous note, *zi, zi, zi,* but it has no regular song. It feeds chiefly on small insects which it obtains on the trees and bushes, but when these are scarce it will eat small seeds. Its nest is one of the most artistic of that of any of our birds, is oval in shape with a hole in the side near the top, is constructed of green moss and lichens carefully worked together with spiders' webs and profusely lined with feathers and hair. The eggs, which are deposited in May, are dull white finely dotted with red, chiefly at the larger end, and average in size about 0·53 by 0·42. In number they vary from 6 to 8, 10 and even 16 or more. The nest is placed in a bush or tree at altitudes varying from two or three to fifty feet above the ground.

Specimens from Siberia have the tail longer, varying from 3·7 to 4·0 inch, and have been separated under the name of *A. macrura,* Seebohm (Brit. B. 1, p. 487.)

224. Subsp. Acredula rosea.

Acredula rosea, (Blyth), ed. White's Nat. Hist. of Selb. p. 111. footnote (1836); Gould, B. of Gt. Brit. ii. pl. 28, 29; Dresser, iii. p. 63, pl. 103; Gadow, Cat. B. Br. Mus. viii. p. 61; Saunders, p. 101; *A. caudata,* Hewitson, i. p. 158, pl. xl. fig. 2; Newton, i. p. 504; Lilford, ii. p. 110, pl. 50 (partim).

Codona, Ital.

Ad. (Great Britain). Differs from *A. caudata* in having the middle of the crown only white, bordered on each side by a broad black band extending from the base of the bill over the eye and joining the black on the nape; under parts dull white slightly marked with brown on the breast and sides of the neck; bill and legs black; iris brown, ring round the eye orange-yellow. Culmen 0·3, wing 2·5, tail 3·6, tarsus 0·7 inch; sexes alike.

Hab. The British Isles, and west central Europe to N. Italy, where it meets *Acredula irbii.*

In habits, note, food, and nidification the present species does not differ from *A. caudata.*

225. Subsp. Acredula trivirgata

Acredula trivirgata, (Temm. and Schlegel). Faun. Jap. Aves. p. 60, pl. 34; Gadow, Cat. B. Br. Mus. viii. p. 62; Seebohm, B. Jap. Emp. p. 87.

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Ö-naga, Jap.

ad. (Japan). Differs from *Acredula rosea* merely in having the black supercilium continued across the lores to the base of the bill.

Hab. Japan on the main island.

In habits and nidification it does not differ from *A. rosea*. It breeds on Fuji, and visits the lower country around Tokio and Yokohama in winter.

226. Subsp. Acredula irbii.

Acredula irbii, Sharpe and Dresser, P.Z.S. 1871, p. 312; Dresser, iii, p. 73, pl. 105, fig. 1; Gadow, Cat. B. Br. Mus. viii. p. 63.

Mito, Span.; *Codibugnolo*, Ital.

Ad. (Spain). Differs from *A. rosea* in having the back bluish grey, not black, slightly tinged with rose on the sides, the centre of the crown usually white striped with black, and the cheeks dull white finely striped with blackish grey. Culmen 0·25, wing 2·32, tail 3·2, tarsus 0·65 inch.

Hab. Spain, Southern Italy, and Sicily, and strays into France.

In note, habits, and nidification it does not differ from *Acredula rosea*. It breeds near Gibraltar, placing its nest 15 or 16 feet above the ground in the *Zarzaparilla*, a thorny creeper, a species of *Smilax*, and its eggs are deposited late in February.

227. Subsp. Acredula caucasica.

Acredula caucasica (Lorenz.) Beitr. Orn. Nords. Kauk. p. 60 Nachtrag. (1887); Dresser, ix. p. 113, pl. 655, fig. 2.

Ad. (Kuban). Crown white, forehead marked with reddish brown, supercilium reddish brown above, blackish brown below; back pale slaty grey, darker on the upper part; upper tail-coverts grey faintly tinged with rose; wings blackish, secondaries margined with white; tail black, all but the central feathers margined and tipped with white, the outermost almost entirely white; under parts white faintly marked with grey on the sides of the breast; bill and feet blackish; iris brown. Culmen 0·3, wing 2·5, tail 3·35, tarsus 0·64 inch.

Hab. The Caucasus where it is resident and not uncommon.

In habits it assimilates closely with its allies, and though its nest and eggs are unknown, they will doubtless be found to resemble those of *A. caudata*. *Acredula dorsalis* Madarasz, of which I examined the type in Buda-Pest, is not separable from

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the present sub-species, but *Acredula senex* Madarasz, from the north Caucasus differs in having the head white and the back paler and greyer. Culmen 0·25, wing 2·35, tail 3·1, tarsus 0·55 inch.

228. Subsp. Acredula sicula.

Acredula sicula, Whitaker, Bull. Brit. Orn. Club. xi. p. 52 (1901); id. Ibis. 1902, p. 54, pl. ii.

♂ *ad.* (Sicily). Resembles *A. caucasica*, differing in having the wings and tail shorter, the brown on the sides of the crown paler, the white median stripe on the crown less pronounced, the feathers there being partly streaked with brown; bill and legs blackish brown; iris dark hazel, eyelid yellowish. Culmen 5·0, wing, 2·25, tail 2·9, tarsus 0·6 inch.

Hab. Sicily.

Appears to be peculiar to Sicily, where it inhabits the wooded inland districts, and breeds in the higher mountain forests. In habits and nidification it is said not to differ from *A. caudata*.

229. Subsp. Acredula macedonica.

Acredula macedonica, Salvad. and Dresser, Bull. B. O. Club, i. p. xv (1892); Dresser, ix. p. 111, pl. 655, fig. 1.

Ad. (Greece). Upper parts as in *A. rosea*, but the black bands on the sides of the crown are conspicuously broader, and extend to the base of the bill; under parts white, sides of the throat faintly striated with grey, and a narrow blackish grey band passes across the breast; the throat being also faintly marked with dark grey; flanks washed with rose; bill and legs black; iris dark brown. Culmen 0·3, wing 2·4, tail 3·5, tarsus 0·6 inch. Sexes alike.

Hab. Resident in Greece, and probably also in Macedonia and Bulgaria.

Respecting its habits and nidification nothing is on record.

230. Turkish Long-tailed Titmouse.

ACREDULA TEPHRONOTA.

Acredula tephronota, (Günther), Ibis. 1865, p. 95, pl. 4; Dresser, iii. p. 75, pl. 105, fig. 2; *A. poeltzami*, (Severtz.) Turk. Jevot. p. 135, pl. 8, fig. 1; Gadow, Cat. B. Br. Mus. viii. p. 64.

Ad. (Asia Minor). Resembles *A. irbii*, but has a large blackish grey spot on the centre of the throat; the white on the crown tinged with brown; under parts dull white, with a few indistinct stripes on the breast; flanks

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vent and under tail-coverts washed with rose-colour; bill and legs black; iris light brownish red with an outer bluish white ring, eyelids orange. Culmen 0·3, wing 1·35, tail 2·8, tarsus 0·71 inch. Sexes alike.

Hab. Turkey, the Caucasus and Asia Minor, and as far east as Persia and Turkestan.

In its habits it assimilates closely with the common European species. It breeds in March and April, and places its nest in preference in a yew-tree. Its nest and eggs are undistinguishable from those of *Acredula caudata*.

231. Mongolian Long-tailed Titmouse.

ACREDULA CALVA.

Acredula calva, Pleske, Prjevalsky's Reisen, ii. Vögel, p. 150, Taf. vii. figs. 1, 2, (1894).

♂ *ad.* (Kan-su). Resembles *A. tephronota*, but has a broad frontal band, the cheeks to above the eye and the ear-coverts pure white; the crown and nape deep black with a small central patch white, sometimes black with but a faint trace of the central white patch. Culmen 0·3, wing 2·5, tail 3·43, tarsus 0·65 inch. It approaches nearest to *A. glaucogularis*, of which it is a northern form, differing in having the frontal band much broader, pure white instead of ochreous, as are also the cheeks and patch on the crown, the under parts whiter and the tail much longer. Sexes alike. The young bird resembles that of *A. glaucogularis* (and has been described as distinct under the name *A. vinacea* (Verr.) but has a longer tail.

Hab. Kan-su and the valley of the Chuan-che in Mongolia.

It inhabits the lower portion of the forest zone, and does not range in the mountains higher than about 9,000 feet. It prefers the deciduous woods in the river valleys, and is also found in the willow and tamarisk thickets on the river banks. Its nest and eggs are as yet unknown, but Prjevalsky saw fledged young on the Tschurmyn river on the 29th April.

PARUS, Linn., 1766.

232. Great Titmouse.

PARUS MAJOR.

Parus major, Linn. Syst. Nat. i. p. 341 (1766); Naum. iv. p. 9. Taf. 94, fig. 1; Hewitson, i. p. 149, pl. xxxix, fig. 1; Gould, B. of Gt. Brit. ii. pl. 23; Newton, i. p. 479; Dresser, iii. p. 79, pl. 106; Gadow, Cat. B. Br. Mus. viii. p. 19; Tacz. F. O. Sib. O. p. 426; Saunders, p. 103; Lilford, ii. p. 97, pl. 44.

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Mésange-charbonnier, French; *Carbonero, Quive-vive*, Span., *Cinciallegra*, Ital.; *Kohlmeise*, German; *Koolmees*, Dutch; *Musvitsmeise*, Dan.; *Kjödmeise*, Norweg.; *Talgmes*, Swed.; *Talitiitinen*, Finn.; *Obiknovennaya-Sinitchka, Jiroïadka*, Russ.

♂ *ad.* (England). Crown, sides of neck, throat, and a broad line down the centre of the breast glossy black; lower nape citron, back yellowish green; rump and upper tail-coverts slate-grey; wings and tail black margined with slate-grey, larger wing-coverts tipped, and outer tail-feathers margined with white; cheeks and ear-coverts white; under parts citron-yellow; bill and iris black; legs plumbeous. Culmen 0·45, wing 2·95, tail 2·45, tarsus 0·7 inch. Female similar but duller. The young also duller and have the cheeks tinged with yellow.

Hab. The whole of Europe from Lapland down to Algeria; Asia Minor, Palestine east to Persia; Siberia east to Dauria.

Lively and active it appears to be continually on the move in search of food. It frequents gardens, orchards, and woods, feeding chiefly on insects and their larvæ, to some extent also on seeds, and will attack and kill small and weakly birds, open the skull, and devour the brain. In the winter they collect in small family parties, and rove about the country. The nest is placed in the hole of a tree or wall, or any similar suitable place, and is usually bulky, consisting of a foundation of dry moss or grass, on which is a soft bed of hair, wool, or feathers, and the eggs, which are generally deposited in April, vary from 6 to 10 in number, and are white, spotted and blotched with red, measuring about 0·7 by 0·51.

233. Subsp. Parus aphrodite.

Parus aphrodite, Madarasz, Termesz. Füsetek. 1901, p. 272.

♂ *ad.* (Cyprus). Is intermediate in appearance between *Parus major* and *minor*, differing from the latter in having the under parts yellower. Culmen 0·5, wing 2·67, tail 2·38, tarsus 0·8 inch. The female is rather yellower than the male.

Hab. The island of Cyprus, where it is resident.

In habits and nidification it is said not to differ from *P. major*.

234. Japanese Titmouse.

PARUS MINOR.

Parus minor, Temm. and Schlegel, Faun. Jap. Aves. p. 70, pl. 33 (1850); Gould, B. of Asia, ii. pl. 56; Gadow, Cat. B. Br. Mus. viii. p. 15.

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♂ *ad.* (Japan). Differs from *P. major* by its smaller size, in having the under parts white with a creamy tinge, and on the occiput a tiny white patch between the black of the crown and the yellow on the neck. Culmen 0·48, wing 2·72, tail 2·38, tarsus 0·65 inch. Female similar but is rather duller.

Hab. The Ussuri country in eastern Siberia, Manchuria, Mongolia, northern China, and Japan.

In general habits it does not appreciably differ from *P. major*, and its nest and eggs resemble those of that species, but the latter are somewhat smaller.

235. Indian Grey Titmouse.

PARUS CINEREUS.

Parus cinereus, Vieill. Tabl. Encycl. and Méthod. ii. p. 506 (1820); Gould, B. of Asia, ii. p. 55; Dresser, ix. p. 115, pl. 656, fig. 1; Gadow, Cat. B. Br. Mus. viii. p. 16; *P. atriceps*, Horsf. Trans. Linn. Soc. xiii. p. 160 (1822); Oates, F. Brit. Ind. Birds, i. p. 46.

Ram-gangra, Beng.

♂ *ad.* (Germab.). Differs from *P. minor* in having the back and rump slaty blue grey, the upper back very faintly tinged with apple-green; under parts excepting the black central stripe white. Culmen 0·5, wing 2·9, tail 2·5, tarsus 0·8 inch. Sexes alike. The young have the upper parts tinged with yellow and the under parts with buff.

Hab. Transcaspia to China, and from the Himalayas down through the Malay peninsula to the islands of the Malay Archipelago. In China it nests, and is said to interbreed with *P. minor*.

In habits it resembles *P. major*, and like that species feeds chiefly on insects. Its call is a sharp two-note whistle frequently repeated. It breeds from March to June, placing its nest in the hole of a tree, bank or wall, and occasionally on the branch of a tree. The nest is constructed of moss, grass, hair, and feathers, and the eggs 5 to 6 in number, are white, blotched chiefly at the larger end with light red.

236. Subsp. Parus bokharensis.

Parus bokharensis, Licht. in Eversm. Reise n. Buchara, p. 131 (1823); Gadow, Cat. B. Br. Mus. viii. p. 16; Dresser, ix. p. 119, pl. 656, fig. 2.

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♂ *ad.* (Dzungaria). Differs from *P. cinereus* in being larger, the upper parts much paler and the sides of the neck are white, not black; beak black; legs plumbeous; iris dark brown. Culmen 0·55, wing 3·0, tail 3·35, tarsus 0·85 inch. Female similar but a trifle smaller.

Hab. Resident in Transcaspia, Afghanistan, and Turkestan.

Frequents woods and groves, usually near water, both in the plains and mountains, and in general habits resembles *Parus major*, but its note is louder. It breeds in April in the holes of trees, frequently in the old nest-holes of woodpeckers. The nest is composed of fine tamarisk twigs and the wool of various animals, or of rotten wood and feathers, and the eggs resemble those of *P. major*.

237. Coal Titmouse.

PARUS ATER.

Parus ater, Linn. Syst. Nat. i. p. 341 (1766); Naum. iv. p. 34, Taf. 94, fig. 2; Gould, B. of E. iii. pl. 155, fig. 1; Newton, i. p. 489; Dresser, iii. p. 87, pl. 107, fig. 3; Gadow, Cat. B. Br. Mus. viii. p. 40; Saunders, p. 105; Lilford, ii. p. 104, pl. 46.

Mésange noire, French: *Garrapinos*, Span.; *Cincia mora*, Ital.; *Tannenmeise*, German; *Zwarte Mees*, Dutch; *Sortmeise*, Dan.; *Kulmeise*, Norweg.; *Svartmes*, Swed.; *Mustatiitinen*, Finn.; *Tchernaya-Sinitchka*, Russ.; *Sosnovka*, Polish.

♂ *ad.* (Sweden). Crown, sides of the neck, and throat black; cheeks and a large muchal patch white; upper parts clear slaty blue; under parts white, the flanks washed with buff; wings and tail blackish, externally margined with grey; median and greater wing-coverts tipped with white, forming two alar bars; bill black; legs plumbeous; iris brown. Culmen 0·4, wing 2·4, tail 2·0, tarsus 1·65 inch. Sexes alike. The young have the black portions duller, the upper parts washed with olivaceous, the nape, cheeks, and under parts yellowish.

Hab. Europe from about 64° to 65° N. Lat. to the Mediterranean; Siberia; Asia Minor and Central Asia to northern China and Japan; rare in Great Britain.

In its habits it is lively and active, continually on the move, flitting amongst the branches, clinging to the twigs in every position, often head downwards. Its flight is short, laboured, jerky, and rather weak, and its note is a clear, shrill *che-chee, che-chee*, audible at a considerable distance. Its food consists almost entirely of insects and their larvæ worms, and

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caterpillars, which it picks from the branches of trees or from the ground. Its nest, which is constructed of grass and moss, lined with hair, feathers, or wool, is placed in the hole of a tree or wall, or occasionally in a hole in the ground, and the eggs, 6 to 9, or even more in number, are deposited in April or May, and are white, marked, chiefly at the larger end, with dark red spots and blotches, and measure about 0·58 by 0·45.

In eastern Asia these birds frequently have the occipital feathers slightly elongated, and have been separated (*P. pekinensis*, David), but this is by no means a constant difference.

238. Subsp. Parus britannicus.

Parus britannicus, Sharpe and Dresser, Ann. and Mag. Nat. Hist. (4), viii. p. 437 (1871); Newton, i. p. 492; Dresser, iii. p. 93, pl. 107, fig. 2; Gadow, Cat. B. Br. Mus. viii. p. 43; Hewitson, i. p. 155, pl. xxxix. fig. 4; Saunders, p. 105; Lilford, ii. p. 104, pl. 47.

Ad. (England). Differs from *P. ater* in having the back olive-grey, the rump clear buff, and the flanks and under tail-coverts brownish buff. Culmen 0·4, wing 2·3, tail 1·7, tarsus 0·7 inch.

Hab. Great Britain.

In habits, note, and nidification this bird does not differ from *P. ater*.

239. Subsp. Parus cypriotes.

Parus cypriotes, Dresser, P. Z. S. 1867, p. 563; id. B. of E. ix. p. 123, pl. 658.

Ad. (Cyprus). Resembles *P. britannicus*, differing in having the nuchal patch much smaller, and the black extending much further down the throat. Culmen 0·6, wing 2·3, tail 1·9, tarsus 0·75 inch. The young bird differs in having the crown brownish black, the throat dull sooty, the white portions of the plumage washed with yellowish buff, and the flanks browner than in the adult.

Hab. The island of Cyprus.

Inhabits the pine trees on Cyprus at an elevation of 4,000 feet, where it was met with in small parties of five or six, and was not numerous. Its note is a feeble edition of that of *P. ater*, from which species it does not differ in habits.

Its nest and eggs are as yet unknown.

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240. Persian Coal Titmouse.

PARUS PHÆONOTUS.

Parus phæonotus, Blanford, Ibis, 1873, p. 88 ; Gadow, Cat. B. Br. Mus. viii. p. 44 ; Dresser, ix. p. 121, pl. 657 ; *P. michailowskii*, Bogdanoff, Ptits. Kavkasa, p. 87 (1889) ; Gadow, op. cit. p. 43.

Buraja-Gaitschka, Kavkaskaya-Gaitschka, Russian.

Ad. (Tiflis). Resembles *P. britannicus*, but is larger, the upper parts rather paler, the flanks warm brownish isabelline, and the centre of the abdomen pure white. Culmen 0·53, wing 2·7 tail 2·05, tarsus 0·75 inch. The young bird has the upper parts duller and darker, the white portions of the plumage tinged with buffy yellow, and the flanks darker.

Hab. The Caucasus, Transcaspia, and Persia ; resident.

In the summer it inhabits the mountains to an elevation of 7,000 feet, descending to the plains in winter. It frequents both conifer and deciduous groves and woods, and in general habits and note does not differ from *P. ater*.

Its nest and eggs are as yet unknown.

241. Subsp. Parus rufipectus.

Parus rufipectus, Severtz. Turk. Jevot. p. 134 (1873) ; Gadow. Cat. B. Br. Mus. viii. p. 44 ; Pleske, Prjevalsky's Reisen, Vögel, p. 155, Taf. ix. fig. 1 ; *P. piceæ*, Severtz. J. f. O. 1873, p. 346.

Ad. (Turkestan). Differs from *P. phæonotus* in being rather smaller, in having the black extending rather further down on the back, the upper part of the back being slaty blue, and only the lower back and the rump olivaceous grey ; spots on the median wing-coverts and the under parts generally pale rufous, fading into buffy rufous on the middle of the abdomen. Culmen 0·4, wing 2·32, tail 1·65, tarsus 0·7 inch.

Hab. Eastern Turkestan.

In habits the present species does not differ from *P. ater* ; its nest and eggs are not known.

242. Algerian Coal Titmouse.

PARUS LEDOUCII.

Parus ledoucii, Malherbe, Cat. Ois. Alg. in Mém. de la Soc. d'Hist. Nat. de la Moselle, p. 45 (1842) ; Dresser, iii. p. 85, pl. 107, fig. 1 ; Gadow, Cat. B. Br. Mus. viii. p. 44.

Bou-reziza, Arabic.

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♂ *ad.* (Algeria). Resembles *P. ater*, but the cheeks, ear-coverts, and sides of the neck are bright lemon-yellow; the nuchal patch yellowish white; the back greenish grey, with a tinge of olive, rather brighter on the rump, and the under parts lemon-yellow. Culmen 0·4, wing 2·5, tail 2·0, tarsus 0·75 inch.

Hab. Algeria.

It inhabits the evergreen oak woods and conifer groves, and is not uncommon. In its general habits it resembles *P. ater*, but its note is described as peculiar, being something between the loud bell-like note of *P. major* and the well-known call of *P. ater*. It breeds like its congeners in holes in trees, and its eggs resemble those of *P. ater*, but the spots are, as a rule, smaller.

243. Marsh Titmouse.

PARUS PALUSTRIS.

Parus palustris, Linn. Syst. Nat. i. p. 341 (1766); Naum. iv. p. 50, Taf. 94, fig. 2; Hewitson, i. p. 157, pl. xl. fig. 1; Gould, B. of E. iii. pl. 155, fig. 2; id. B. of Gt. Brit. ii. pl. xxvii; Newton, i. p. 495; Dresser, iii. p. 99, pts. 108, 109, figs. 1, 2; Gadow. Cat. B. Br. Mus. viii. p. 49; Saunders, p. 107; Lilford, ii. p. 106, pl. 46; *P. meridionalis*, Liljeb. Naumannia, ii. p. 100 (1852); *P. dresseri*, Stejneger, Proc. U.S. Nat. Mus. ix. p. 200 (1886).

Mésange nonnette, French; *Herrerillo*, Span.; *Cincia-bigia*, Ital.; *Sumpfmeise*, German; *Zwartkopmees*, Dutch; *Sumpmeise*, Dan. and Norweg.; *Kärrmes*, Swed.; *Ko-gara*, Jap.; *Bolotnaya sinitchka*, Russ.

♂ *ad.* (Sweden). Crown to beyond the occiput and upper throat deep black with a strong gloss; upper parts greyish brown, tinged with olive, paler on lower back and rump; wings and tail greyish brown, with paler external margins; tail even; sides of the head and of the neck white; under parts dull white; the flanks and under tail-coverts washed with pale buff; bill blackish; legs plumbeous; iris brown. Culmen 0·35, wing 2·25, tail 1·85, tarsus 0·55 inch.

Hab. Europe, from Scandinavia to the Mediterranean; Asia Minor, and Asia as far east as Japan, subject, however, to slight climatic variations as below stated.

In habits this Titmouse differs but little from its allies, in company with which it is often seen during its winter wanderings. It frequents woods, especially in damp localities, gardens, orchards, hedge-rows, etc., and is less often seen in high forest trees than the Coal Titmouse. It feeds on insects of various

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kinds, their larvæ and eggs, and to some extent also on seeds. Active and restless, it is extremely sociable, and when wandering about in the autumn and winter, consorts freely with other species of Titmouse and Goldcrests. It is as a rule resident, not migrating in autumn, but only wandering about the country. Its call-note is a long-drawn *pey, pey*, and its song, if such it may be termed, *sis, sis, sis*. Its nest is usually placed in the hole of a tree, generally near the ground, but I have found them at considerable altitudes, sometimes in a deserted rat's hole or other hole in the ground. It is constructed of small twigs, bits of grass, moss, wool, hair, or thistle down, varying in size according to locality, and the eggs from 6 to 10 or even 12 in number are white, spotted with dull red, the spots being sometimes more numerous round the larger end, and are usually deposited in May, but two broods are sometimes reared in the season. In size they average about 0·63 by 0.48.

Few groups have been subjected to more subdivision than the Marsh Titmice, and long articles on them have been published by Messrs. Brehm, De Selys-Longchamps, Fatio-Beaumont, Seebohm, Prazák, Dr. Kleinschmidt, and others, and I may refer my readers who may wish to study the various forms to Dr. Kleinschmidt's article (Orn. Jahrb. 1897, pp. 45–103), as it contains the latest information on the subject. He divides them into two groups, *Parus meridionalis* (*P. palustris*, auctt.) and *Parus salicarius* (*P. borealis*, auctt.), and subdivides the former into the following subspecies, viz. *P. dresseri* (Great Britain), *P. dresseri longirostris* (France and Rhineland), *P. meridionalis subpalustris* (Germany, except the extreme N.E. and extreme W.), *P. meridionalis* (S. Sweden, E. Prussia, Livonia), *P. communis stagnatilis* (Galicia, Siebenbürgen, Servia, Bosnia). *P. communis* (Swiss Alps and Austria), *P. brevirostris* (Irkutsk, Baikal), *P. brevirostris crassirostris* (Sidemi, S.E. Siberia, Ussuri, Corea), *P. seebohmi* (N. Japan, Yesso and Kuriles), *P. hensoni* (S. part of N. Japan, Yesso, Hakodadi, and S. Japan), *P. spec. nov.* (Peking).

After a careful examination of these forms I have elected to unite all the former under *P. palustris*.

244. Northern Marsh Titmouse.

PARUS SALICARIUS.

Parus salicarius, C. L. Brehm, Vögel Deutschl. p. 465 (1831); *P. borealis*, De Selys, Bull. Acad. Roy. Bruxelles, 1843, p. 2; Dresser, iii. p. 107, pl. 109, fig. 3; Gadow, Cat. B. Br. Mus. viii. p. 51; *P. alpestris*, Bailly, Bull. Soc. Hist. Nat. Savoie, 1851, p. 22.

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Tulltita, Swedish.

Ad. (Norway). Differs from *P. palustris* in having the crown plain black without gloss, the black on the nape continued further down; the back paler and greyer; the secondaries margined with light grey; the tail rounded, not even; and the cheeks whiter. Culmen 0·4, wing 3·45, tail 2·2, tarsus 0·65 inch.

Hab. Norway, Sweden, Finland, N.W. Russia, and the mountains of central Europe; is said to have occurred in England.

Differs but little in habits from the Marsh Titmouse, but its call note is easily distinguishable, being sharper and more elongated as if divided into two notes. It also nests usually in the forests, never by water, and constructs its nest of fine strips of bark and occasionally a few hairs and feathers. The eggs are, however, undistinguishable from those of *P. palustris*. Moreover, the present species makes its own nest hole in an old branch or stump, whereas *P. palustris* makes use of any suitable old hole.

In the article above cited Dr. Kleinschmidt subdivides the Northern Marsh Titmouse as follows, viz. *Parus salicarius* (Central and W. Germany, the Rhine plain between Worms and Bingen), *P. salicarius murinus* (Renthendorf, Germany), *P. salicarius accedens* (mountains of central Germany to French Switzerland at moderate altitudes), *P. montanus* (Alps), *P. montanus assimilis* (Galicia), *P. borealis*, Selys-Longchamps (Iceland), *P. borealis colletti* (W. Norway), *P. palustris*, Wallengren nec. Linn. (Sweden), *P. borealis*, Liljeborg (N. Russia, Archangel), *P. borealis macrurus* (Siberia, N. China), *P. camtschatkensis* (Kamchatka), *P. spec. nov.* (Japan, Hondo, Shimotsuke). Of these I have deemed it advisable only to recognise *P. salicarius* from Scandinavia and N. Russia, *P. macrurus* (*s.n. P. baicalensis*) and *P. camtschatkensis*.

245. Subsp. Parus baicalensis.

Parus baicalensis, Swinhoe, Ann. and Mag. N. H. 1871, p. 257; *Parus kamtschatkensis* (nec. Bp.), Dresser, iii. p. 119, pl. 110, Gadow, Cat. B. Br. Mus. viii. p. 51; *P. macrura*, Tacz. F. O. Sib. O. p. 436.

Ad. (Siberia). Differs from *P. borealis* in having the black cap extended down to the back, the back paler and greyer, the sides of the head below the cap and a broad band bordering the cap pure white; secondaries margined with greyish white; tail rather longer than in *P. borealis*. Culmen 0·43, wing 2·52, tail 2·6, tarsus 0·68 inch.

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Hab. Siberia, ranging west to the Petchora river.

In general habits it does not differ from *P. borealis*, but its nest is said to resemble that of *P. palustris*. It nests in holes of trees, and either makes use of a suitable hole or bores one for itself. It breeds in May, and its eggs do not differ from those of its congeners.

246. Subsp. Parus camtschatkensis.

Parus camtschatkensis (Bp.) Consp. Gen. Av. i. p. 230 (1850); Gadow, Cat. B. Br. Mus. viii. p. 51; (Tacz.) F. O. Sib. O. p. 442.

Ad. (Kamchatka). Differs from *P. baicalensis* in having the black on the nape extending rather farther on the back, which is white tinged with sandy grey; upper tail-coverts pure white; wings and tail rather broadly margined with white; under parts, below the throat and flanks, pure white. Culmen 0·4, wing 2·45, tail 2·23, tarsus 0·73 inch.

Hab. Kamchatka.

Does not differ in habits from *P. baicalensis*, of which it is a paler, northern form. I do not find any description of its nest and eggs.

247. Songaran Marsh Titmouse.

PARUS SONGARUS.

Parus songarus, Severtz. Turk. Jevot. p. 134 (1873); Gadow, Cat. B. Br. Mus. viii. p. 48 (part.); Pleske, Prjevalsky's Reisen, Vögel, ii. p. 157, Taf. viii. fig. 1.

Ad. (Turkestan). Crown and nape black; upper parts generally pale sandy or buffy brown; wings and tail brown, with narrow pale margins; lores, cheeks, and ear-coverts white; chin and throat black, the feathers narrowly tipped with white; rest of the under parts pale whitish isabelline, the sides of breast flanks and under tail-coverts washed with warm ochraceous; bill blackish; legs plumbeous; iris dark brown. Culmen 0·55, wing 2·7, tail 2·38, tarsus 0·75 inch.

Hab. Turkestan, east to the Sairam-nor and Issyk-kul.

Frequents the conifer woods, and in general habits does not differ from the other Marsh Titmice.

248. Mongolian Marsh Titmouse.

PARUS AFFINIS.

Parus affinis (Prjev.), Mongol. i Strana Tangut, ii. p. 52 (1876); Berez. and Bianchi, Ptitz Gan-su, p. 111; Pleske, Prjevalsky's Reisen, ii. Vögel, p. 158, Taf. viii. fig. 2.

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Ad. (Kan-su). Differs from *P. songarus* in having the crown black with a coffee-brown tinge, not deep black, the throat patch also brownish black, the upper parts paler, more isabelline in tinge, and the under parts rather whiter. Culmen 0·47, wing 2·62, tail 2·48, tarsus 0·7 inch.

Hab. The Njan-shan Mountains, Alaschan, and Kan-su.

Inhabits the conifer and non-evergreen woods, but does not range so high as the alpine bush region. In April they were observed pairing, and early in June the young had left the nests. I do not, however, find any description published of the nest and eggs.

249. Subsp. Parus hypermelæna

Parus hypermelæna, Berez. and Bianchi, Ptitz. Gan-su, p. 112, pl. ii. fig. 2 (1891).

Ad. Crown and nape glossy black, this colour extending on to the back, which is olive-brown, and the rump also, but tinged with sandy; sides of the head and ear-coverts white; wings and tail blackish grey, externally margined with olivaceous; chin and throat dull black; rest of under parts white, the sides of the breast olive-brown, the flanks sandy brown; bill blackish; legs plumbeous; iris dark brown. Culmen 0·36, wing 2·4, tail 1·83, tarsus 0·55 inch. Tail nearly even. It differs from *P. affinis* in being smaller, having a square and not a rounded tail, and in having the crown glossy black, and from *P. palustris* by having more black on the throat (about as much as *P. ater*) in having the black extended further on the back, and in the dark colour of the sides of the breast and flanks.

Hab. Shen-si.

Only two specimens were obtained at Shen-si on the borders of Kan-su and Szechuen, and nothing is known of its habits or nidification.

250. Sombre Titmouse.

PARUS LUGUBRIS.

Parus lugubris, Natterer fide Temm. Man. d'Orn. p. 293 (1820); Gould, B. of E. iii. pl. 151, fig. 1; Dresser, iii. p. 121, pl. 111; Gadow, Cat. B. Br. Mus. viii. p. 47.

Trauermeise, German; *Cincia dalmatina*, Ital.

♂ *ad.* (Smyrna). Crown, nape, and throat sooty black; upper parts ashy brown; spurious wing and primary coverts blackish brown with greyish white margins; rest of the wings and tail greyish brown, externally margined with whitish; cheeks, ear-coverts, and sides of neck pure white;

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rest of under parts dull white, the sides of breast and flanks washed with pale ashy brown; bill blackish; legs plumbeous; iris dark brown. Culmen 0·5, wing 2·8, tail 2·5, tarsus 0·75. Sexes alike.

Hab. Greece, Hungary, Turkey, and Asia Minor east to Persia.

In habits it resembles the other Titmice, does not, however, collect in small flocks in winter, but lives in pairs. Its call-note is also said to differ from that of the other Titmice. It inhabits the plains, but is found tolerably high up in the mountains. It nests in holes of trees either high above or near the ground, and is also said to breed in holes in the rocks. It does not deposit so many eggs as the other Titmice, but never more than 7 or 8. These resemble those of *Parus major*, and measure about 0·71 by 0·55 inch.

251. Siberian Titmouse.

PARUS CINCTUS.

Parus cinctus, Bodd. Tabl. Pl. Enl. p. 46 (1783); Dresser, iii. p. 125, pl. 112; Gadow, Cat. B. Br. Mus. viii. p. 35; *P. sibiricus*, Gmel. Syst. Nat. i. p. 1013 (1788); Gould, B. of E. iii. pl. 151, fig. 2.

Lappsk Mes, Swed.; *Lapin-tiainen*, *Pistitiainen*, Finn.; *Kadapija*, Lapp.

♂ *ad.* (Lapland). Crown and nape dusky brown, the throat blackish; upper parts pale golden brown, slightly washed with rufous; wings and tail blackish, the former externally with narrow whitish margins, the tail washed with grey, the outer feather edged and tipped with dull white; feathers on the lower throat narrowly margined with white; chest and centre of abdomen white; rest of under parts pale rusty rufous; bill blackish; legs plumbeous; iris reddish brown. Culmen 0·4, wing 2·8, tail 2·8, tarsus 0·7 inch. Sexes alike.

Hab. Northern Scandinavia to the margin of the fir belt; north Russia east to the Yenesei.

In its general habits it is active and lively, restless and always on the move, hunting after its insect food. It affects pine-forests, being less seldom seen in non-evergreen growth, and is chiefly to be seen amongst scattered large trees or their young growth. It breeds in June, either excavating its own nest-hole in a dead tree or making use of a deserted Woodpecker's hole. The nest is constructed of moss, wool, hair, and feathers, and the eggs from 6 to 9 in number are white, spotted

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with pale red underlying shell blotches and dark red surface markings, and measure about 0·65 by 0·52.

Its general call-note resembles than that of *P. borealis*, but is louder and deeper in tone.

252. Subsp. Parus obtectus.

Parus obtectus, Cabanis, J. f. O. 1871, p. 237 ; Gadow, Cat. B. Br. Mus. viii. p. 35 ; Turner, Nat. Hist. Alaska, p. 182, pl. x. ; *P. grisescens*, Sharpe and Dresser, B. of E. iii. p. 129 (1871).

Ad. (E. Siberia). Differs from *P. cinctus* in having the crown and upper parts paler and greyer, the back with scarcely any trace of rufous ; under parts white, the flanks faintly washed with warm buff. Culmen 0·48, wing 2·75, tail 2·77, tarsus 0·62 inch.

Hab. Siberia, ranging west as far as the valley of the Yenesei where it meets *P. cinctus ;* occasional in Alaska.

This eastern form of *P. cinctus* does not differ in habits from that species. Godlevski found it numerous on passage in October in the southern Baikal district, consorting with *P. baicalensis*, from which it was easily distinguishable by its harsh call-note. Judging from Turner's plate the Alaskan bird has the flanks a little more rufescent than the Siberian bird.

It has been found breeding in Alaska, and its nest and eggs were taken, but no description of them appears to have been published.

253. White-browed Titmouse.

PARUS SUPERCILIOSUS.

Parus superciliosus (Prjev.) Mongol i Strana Tangut, ii. p. 53 (1876) ; Pleske, Prjevalsky's Reisen, ii. Vögel, p. 160.

♂ *ad.* (Kan-su). Crown and throat deep black ; upper parts ashy blue-grey, paler towards the nape ; wings and tail blackish, externally margined with ashy grey ; sides of head and neck below the eye and under parts pale rufous, paler on the middle of the abdomen ; a distinct pure white superciliary stripe from the base of the bill over the eye ; bill blackish ; legs blackish plumbeous ; iris dark brown. Culmen 0·4, wing 2·55, tail 2·8, tarsus 0·85 inch. Sexes alike.

Hab. Mongolia (Kansu and the upper Chuanche).

Inhabits the bushes in the alpine zone of the mountains, and is seen in small flocks, often in company with *Leptopœcile* in the rhododendron and caragana thickets. Its call-note is a loud whistle reminding one of that of *Rhopophilus*. Mr. Grum-

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Grzimailo found a nest containing five eggs near Sining, which was placed in a mouse-hole and constructed of moss and grass and lined with camels' wool and mouse hair. The eggs were white, spotted all over the surface of the shell with reddish yellow.

The nearest ally to this Titmouse is *Parus montanus* Gambel, which inhabits the Rocky Mountains and western North America.

254. Red-bellied Titmouse.

PARUS DAVIDI.

Parus davidi (Berez. and Bianchi), Ptitz. Gan-su p. 113, pl. ii. fig. 4 (1891).

Ad. (Kan-su). Crown and nape deep black, rather dull; below the black nape a rufous band crosses the back, joining the red on the breast; back dark olive-brown with a grey tinge; tail and wings like the back, externally margined with dull ochraceous; sides of the neck and head below the eye white; chin and throat dull black; rest of the under part chestnut-red, the centre of the abdomen paler; 4th and 5th quills longest, the 6th nearly equal, the 2nd equal to the 9th or 10th, the 1st about 21mm. shorter; beak black; legs plumbeous; iris dark brown. Culmen 0·37, wing 2·55, tail 2·0, tarsus 0·65 inch. Sexes alike; the young differ only in having the sides of the head yellowish.

Hab. S.W. Kansu.

Berezovski only met with it in the mountains of S.W. Kansu where it was rare, occurring in small parties of 5 to 10 individuals on the edge of the forest, in valleys at an altitude of 7,000 to 9,000 feet. Its note resembles that of *P. affinis*, but is harsher and more discordant, and in its general habits it does not differ from the Marsh Titmouse. Nothing is known respecting its nidification.

255. Varied Titmouse.

PARUS VARIUS.

Parus varius, Temm. and Schl. Faun. Jap. Aves, p. 71, pl. 35 (1850); Gadow, Cat. B. Br. Mus. viii. p. 37; Seebohm, B. Jap. Emp. p. 85.

Yama-gara, Jap.

♂ *ad.* (Japan). A broad frontal band continued down the sides of the neck white; crown, hind neck, chin, and throat deep black; an irregular white patch on the occiput and nape; upper part of back chestnut-red, the remainder of back, wings, and tail bluish grey; an irregular band below the black throat creamy white; breast, abdomen, and flanks chestnut-red,

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paler on the middle of the abdomen and under tail-coverts; bill brownish horn; legs plumbeous; iris brown. Culmen 0·51, wing 3·1, tail 2·22, tarsus 0·77 inch. Female similar but rather duller on the upper parts.

Hab. Japan (Yesso and Hondo) and Corea.

In habits it is said to resemble the other Titmice, and like them frequents conifer groves, but is much less sociable, and is generally seen alone or in pairs. Its note is described as resembling that of *Picus minor*. It nests in holes in trees or in stone walls, in April or May, depositing 7 to 8 eggs which are white, faintly marked, chiefly at the larger end, with pale red, and measure about 0·69 by 0·55.

In the Seven Islands, south of Japan, another form, *Parus Owstoni* Ijima (Dobuts. Zass. No. 62, December 1893) occurs, which has a larger and stouter bill, and the white portions of the plumage are replaced by dark rufous.

256. Azure Titmouse.

PARUS CYANUS.

Parus cyanus, Pall. Nov. Comm. Ac. Sci. Imp. Petrop. xiv. p. 588, Tab. 13, fig. 1 (1770); Naum. iv. p. 76, Taf. 95, fig. 3; Gould, B. of E. iii. pl. 153; Dresser, iii. p. 143, pl. 114; Gadow, Cat. B. Br. Mus. viii. p. 10; (Tacz.) F. O. Sib. O. p. 432.

Lasurmeise, German; *Azurmes*, Swed.; *Bielaya-Lazorevka*, Russ.

♂ *ad.* (S. Ural). Crown, lores, and a ring round the eye white, a blackish blue stripe passing through the eye; back bluish grey; upper tail-coverts blue, tipped with white; wings greyish brown, the outer webs of feathers blue and tipped with white; a broad white alar bar; tail blue, the outer feathers and tips white; under parts white, with a small bluish black patch in the middle of the breast; bill blackish; legs plumbeous; iris blackish brown. Culmen 0·4, wing 2·7, tail 2·7, tarsus 0·65 inch.

Hab. Russia, east through Siberia to the sea of Japan, and south to Turkestan. In Europe it has strayed as far west as Scandinavia, Germany, and Austria.

Frequents as a rule damp places, willow thickets on the borders of streams, and does not inhabit forests. Its call-note is very varied; when on the wing it utters a loud but fine *tirr, tirr*, when perched a loud and agreeable *tscherpink, tscherpink, tscherpink*, very quickly in succession, and then a note like the *pink, pink, tschsch*, of the Coal Titmouse. Its flight consists of

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a succession of bow-shaped lines, and somewhat resembles that of the Wagtail, and is more powerful than that of *P. major*. Like its allies it is very active and restless, and feeds chiefly on insects of various kinds and their larvæ. It breeds in May and places its nest in the hole of a tree, a willow being most frequently selected, and deposits 10 to 11 eggs. The nest is constructed of moss and hair, and the eggs are white, spotted with dull red, most nearly resembling those of *P. cæruleus*, and measure about 0·65 by 0·45.

Severtzoff separated subspecifically the Tian-shan bird under the name of *Parus cyanus tianschanicus* (J. f. O. 1873, p. 347), but I agree with Mr. Pleske that it cannot stand even as a subspecies.

257. Subsp. Parus berezovskii.

Parus berezovskii, Pleske, Prjevalsky's Reisen, ii. Vögel, p. 163, Taf. vii. figs. 3, 4 (1894).

Ad. Differs from *P. flavipectus* in having the crown washed with sooty grey, the stripe on the side of the head restricted to the front of the eye, the band on the nape small or wanting, and the spot on the abdomen wanting; bill dark horn, lighter on the edges; legs plumbeous; iris brown. Culmen 0·37, wing 2·5, tail 2·35, tarsus 0·7 inch.

Hab. Upper Chuanche in Mongolia.

All we know about this species is that Col. Prjevalsky met with it on the upper Chuanche, where it inhabits thickets to an altitude of 8,000 feet. On the 23rd May he saw young birds which had left the nest.

258. Yellow-breasted Titmouse.

PARUS FLAVIPECTUS.

Parus flavipectus, Severtz. Turk. Jevot. p. 133, pl. viii. fig. 7; Gadow, Cat. B. Br. Mus. viii. p. 11.

♂ (Turkestan). Resembles *P. cyanus*, but has the crown and sides of the head washed with bluish grey, and the lower part of the neck and breast are rich sulphur-yellow. Culmen 0·4, wing 2·65, tail 2·42, tarsus 0·65 inch.

Hab. Turkestan.

In habits this species is said not to differ from *P. cyanus*, and its eggs and nest are as yet unknown.

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259. Subsp. Parus pleskii.

Parus pleskii, (Cabanis), J. f. B. 1877, p. 213, Taf. 3, fig. 1; Gadow, Cat. B. Br. Mus. viii. p. 12; Dresser, ix. p. 125, pl. 659.

♂ *ad.* (St. Petersburg). Crown azure-blue surrounded by a white stripe; back and rump greyish blue; rest of the head, neck, and the upper parts, otherwise as in *P. cæruleus* except that the secondaries and wing-coverts are more broadly tipped with white, and the outer web of the outer tail-feather is white; under parts white; the breast and flanks faintly tinged with primrose; on the middle of the breast a dark blue line; beak horn-blue paler at the base; legs plumbeous; iris dark brown. Culmen 0·4, wing 2·6, tail 2·4, tarsus 0·68 inch.

Hab. North Russia west of the Ural, and has occurred once in Belgium.

This species is intermediate between *P. cyanus* and *P. cæruleus*, and is said to interbreed with both species. In its habits it does not differ from them, and though its nest and eggs are unknown they will probably be found to resemble those of *P. cæruleus*.

260. The Blue Titmouse.

PARUS CÆRULEUS.

Parus cæruleus, Linn. Syst. Nat. i. p. 341 (1766); Naum. iv. p. 62, Taf. 95, figs. 1, 2; Gould, B. of E. ii. pl. 154; id. B. of Gt. Brit. ii. pl. 124; Hewitson, i. p. 151, pl. xxxix. fig. 2; Newton, i. p. 483; Dresser, iii. p. 131, pl. 113, figs. 1, 2; Gadow, Cat. B. Br. Mus. viii. p. 12; Saunders, p. 109; Lilford, ii. p. 102, pl. 45.

Mésange bleue, French; *Cedovem pequeno*, Portug.; *Herrerillo*, Span.; *Cinciarella*, Ital.; *Blaumeise*, German; *Pimpel*, Dutch; *Blaameise*, Dan. and Norweg.; *Blåmes*, Swed.; *Sinitiitinen*, Finn.; *Sinitza-Lazorevka*, Russ.; *Sikoramodra*, Polish.

♂ *ad.* (Holland). Crown, back of neck, and a band encircling the neck, chin and a line to the band bright blue; forehead, a line encircling the crown and cheeks white; a blue-black line from the lores through the eye to the nape; back yellowish green the rump yellower; wings and tail blackish margined with blue, the coverts and inner secondaries tipped with white; under parts lemon-yellow, a dark bluish line along the middle of the abdomen; bill blackish horn; legs plumbeous; iris dark brown. Culmen 0·4, wing 2·6, tail 2·1, tarsus 0·7 inch. Female similar.

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Hab. Europe from 63° N. Lat. to the Mediterranean and east to Persia.

Active, restless, and cheerful, this is one of our best known birds, especially as it so frequently occurs in gardens and near inhabited dwellings. After the young are fledged they collect in small flocks, together with other Titmice and Goldcrests, and wander about during the winter in search of food, but in some parts they migrate regularly. They feed chiefly on insects and their larvæ, but to some slight extent on berries, seeds, and fruit. Few birds are more useful in ridding gardens of insect pests. They are also very partial to picking an old bone if placed out for that purpose. The nest is constructed of moss, wool, and feathers, and is placed in any convenient hole in a tree or wall, or in an old pot or box if allowed to make use of such. The eggs, from 7 to 12, or 14, or occasionally even more, are deposited in April or May, and are white spotted with pale red, averaging in size about 0·57 by 0·45. Mr. Blanford separated the Persian bird, naming it *P. persicus* (Ibis, 1873, p. 89, E. Pers. pl. xvi., fig. 2), but after a careful comparison I cannot agree that it is separable from the European form.

261. Algerian Blue Titmouse.

PARUS ULTRAMARINUS.

Parus ultramarinus, Bp. Rev. et Mag. de Zool. 1841, p. 146; Dresser, ix. p. 128; *P. teneriffæ*, Dresser, iii. p. 139, pl. 113, fig. 3 (nec. Less.); Gadow, Cat. B. Br. Mus. viii. p. 14, (nec. Less.).

Bou-reziza, Arabic.

♂ *ad.* (Algeria). Differs from *P. cæruleus* in having the upper parts clear slaty blue, the crown blue-black, and all the blue portions of the plumage very much darker in tone; larger wing-coverts and secondaries tipped with white. Culmen 0·4, wing 2·45, tail, 2·0, tarsus 0·65 inch. Sexes similar.

Hab. North-west Africa and the island of Fuerteventura.

In habits it resembles *P. cæruleus*, and affects woods, orchards, and gardens, feeding on insects and their larvæ, small berries, and seeds. Its note is, however, said to differ from that of *P. cæruleus*. It nests in holes of trees, making a nest of any soft substances it can collect together, and deposits 6 to 8 eggs, which resemble those of *P. cæruleus*, but are as a rule more strongly blotched with red.

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262. Subsp. Parus teneriffæ.

Parus teneriffæ, Lesson, Traité d'Orn. i. p. 456 (1831); Dresser, ix. p. 127, pl. 660, fig. 2; *P. violaceus*, Bolle J.f.O. 1854, p. 455.

♂ *ad.* (Teneriffe). Resembles *P. ultramarinus* but is rather larger, brighter in tone of colour, and lacks the white margins to the secondaries and wing-coverts, the wing being plain blue. Culmen 0·45, wing 2·5, tail, 2·15, tarsus 0·8 inch. Sexes similar.

Hab. Grand Canary, Teneriffe, and Gomera in the Canaries.

Frequents both tree- and bush-growth from the coast to an altitude of 4,300 feet, and is most commonly seen in the fruit gardens. In habits it does not differ from *P. cæruleus*, and like that species places its nest in the hole of a tree or wall or in any convenient nook or cranny, and deposits in June 4 to 5 eggs, which resemble those of *P. cæruleus*, but are a trifle larger and more boldly blotched.

263. Subsp. Parus palmensis.

Parus palmensis, Meade-Waldo, Ann. Mag. Nat. Hist. ser. 6, iii. p. 490 (1889). id. Ibis. 1889, pl. xvi; Dresser, ix. p. 129, pl. 660, fig. 1.

Ad. (Palma). Resembles *P. ultramarinus* but has the entire abdomen, excepting the sides, pure white; secondaries and wing-coverts tipped with white. Culmen 0·45, wing 2·5, tail 2·3, tarsus 0·75 inch.

Hab. Island of Palma, Canaries.

Frequents the pine-woods and laurel-thickets up to an elevation of 5,000 feet, and does not frequent gardens or chestnut-groves. Like its congeners it breeds in holes of trees, but much earlier, late in March or early in April, and deposits only 3 or 4 eggs, which are white spotted and blotched with red.

264. Subsp. Parus ombriosus.

Parus ombriosus, Meade-Waldo, Ann. and Mag. Nat. Hist. ser. 6. v. p. 103 (1890); id. Ibis, 1890, pl. xiii; Dresser, ix. p. 131, pl. 661.

Ad. Resembles *P. ultramarinus* but has only a band across the forepart of the back slate-blue, the rest of the back and rump being green, darker in tint than in *P. cæruleus*; primaries narrowly bordered, and secondaries tipped with white. Culmen 0·4, wing 2·5, tail 2·25, tarsus 0·75 inch.

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Hab. Island of Hierro, Canaries.

Frequents the pine-woods, and is occasionally found in the tree heaths and laurels, but in general habits does not differ from *P. teneriffæ*. Its nest and eggs are as yet unknown.

LOPHOPHANES, Kaup, 1829.

265. Crested Titmouse.

LOPHOPHANES CRISTATUS.

Lophophanes cristatus, (Linn.) Fauna, Suecica. p. 97 (1761); (Naum.) iv. p. 42. Taf. 94, fig. 3; (Hewitson), i. p. 154, pl. xxxix. fig. 3; (Gould), B. of E. ii. pl. 156; (id.) B. of Gt. Brit. ii. pl. 26; (Newton), i. p. 499; Dresser, iii. p. 151, pl. 115; (Gadow), Cat. B. Br. Mus. viii. p. 27; (Saunders), p. 111; (Lilford), ii. p. 107, pl. 49.

Mésange huppée, French; *Capuchino*, Span.; *Cincia con ciuffo*, Ital.; *Haubenmeise*, German; *Tofsmeise*, Dan. and Norweg.; *Tofsmes*, Swed.; *Toyhlōtiiainen*, Finn.

♂ *ad.* (Sweden). Crest long, lanceolate, black margined with white; upper parts greyish brown, tinged with rufous on the rump; wings and tail dark brown; chin and throat deep black, on the lower throat widening and forming a narrow band to the nape; sides of head, neck, and under parts white, tinged with rufous buff on the flanks; bill black; legs plumbeous; iris brown. Culmen 0·5, wing 2·55, tail 2·05, tarsus 0·7 inch. Sexes alike, and the young differ only in having shorter crests.

Hab. Europe generally, from Northern Scandinavia to the Mediterranean, and from the Atlantic to the Ural; not uncommon in some parts of Scotland, but rare in England.

In habits it has much in common with the other Titmice, but is much oftener to be seen searching for food on the ground. It affects conifer woods and groves, and alder swamps where conifer trees are near, and is rarely seen away from woods, or in gardens, and feeds on insects and their larvæ, and to a smaller extent on fruit, seeds, and berries.

It is only migratory in some localities, being as a rule a wanderer during the winter, consorting with other Titmice, Goldcrests, and Nuthatches, wandering about in search of food. Its note differs from that of its allies, and is loud, clear, and sharp, resembling the syllables *kirr*, *kirr*, or *kirrit*. It places its nest usually in the hole of a tree, either excavating it itself

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or using an old woodpecker's or any convenient hole, but it has been known to construct a nest not unlike that of a wren. The nest is usually constructed of grass, moss, wool, and feathers, and the eggs, 5 or 6 in number, are white, rather boldly spotted and blotched with bright red, measuring about 0·65 by 0·50.

266. Himalayan crested Titmouse.

LOPHOPHANES RUFINUCHALIS.

Lophophanes rufinuchalis, (Blyth), J. A. S. Beng. xviii. p. 810 (1849); (Gadow), Cat. B. Br. Mus. viii. p. 29; Oates, F. Brit. Ind. Birds, i. p. 58; (Gould), B. of Asia, ii. pl. 60.

Ad. (Himalayas). Crown, hind neck, throat and breast glossy black, the crown with a long recurved crest; sides of the head below the eye, sides of neck, and nuchal patch white; upper parts bluish grey with a buff tinge; wings and tail dark ashy grey margined with bluish grey, secondaries and wing-coverts unspotted; under parts below the breast clear bluish grey; the sides of the breast, axillaries, and under wing- and tail-coverts rusty red; bill blackish; legs plumbeous; iris brown. Culmen 0·5, wing 2·9, tail 2·28, tarsus 0·8 inch. Sexes alike.

Hab. Samarcand, Afghanistan, Turkestan, and Himalayas.

It inhabits the mountains from 7,000 to 12,000 feet altitude in summer, descending to 5,000 feet in winter. It breeds in the pine forests of Gilgit, and its nest has been found under a large stone, but its eggs are undescribed.

267. Subsp. Lophophanes beavani.

Lophophanes beavani, Blyth, Jerd. B. of Ind. ii. p. 275 (1863); (Gadow), Cat. B. Br. Mus. vii. p. 29; Oates, F. Brit. Ind. Birds, i. p. 59.

♂ *ad.* (Sikhim). Resembles *L. rufinuchalis*, differing in having the upper parts rather darker and clearer blue and the black on the throat extending much less further down, only to the upper breast, rest of the under parts blue-grey tinged with buff. The young bird has the black on the throat duller and gradually merging into the grey of the rest of the under parts. Culmen 0·48, wing 2·7, tail 2·0, tarsus 0·75 inch. Sexes alike.

Hab. Nepal, Sikhim, Koko-nor mountains in Mongolia, and Tsinling and S. Chensi in China.

Like the preceding species it inhabits the mountains at considerable elevations, and is found in the pine-woods.

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268. Black-crested Titmouse.

LOPHOPHANES MELANOLOPHALUS.

Lophophanes melanolophalus, (Vigors) P.Z.S. 1831, p. 23; (Gould), Cent. Himal. B. pl. 30; (id.) B. of Asia, ii. pl. 61; (Gadow), Cat. B. Br. Mus. viii p. 28; Oates, F. Brit. Ind. Birds, i. p. 57.

♂ *ad.* (Himalayas). Resembles *L. rufinuchalis* but has the upper parts clearer darker bluish, and more rufous on the sides of the breast; secondaries and wing-coverts with conspicuous white terminal spots. Culmen 0·42, wing 2·5, tail 1·8, tarsus 0·67 inch. Sexes alike. The young resembles those of *L. beavani* but have conspicuous buff terminal spots on the wing-coverts and secondaries.

Hab. Eastern Afghanistan and N. W. Himalayas from Kumaun to Murree.

Frequents conifer woods in the mountains at elevations of from 6,000 to 12,000 feet, and breeds from March to June, placing its nest, which is constructed of moss, fur, and wool, in a hole in a tree, rock, or wall, the latter in preference. The eggs, from 6 to 8 in number, are pinkish-white spotted and blotched with bright brownish-red, and measure about 0·61 by 0·47.

269. Mongolian Crested Titmouse.

LOPHOPHANES DICHROIDES.

Lophophanes dichroides, Prjevalsky, Mongol i Strana Tangut, ii. p. 54. (1877); Pleske, Prjevalsky's Reisen, ii. p. 166, Taf. ix. fig. 2.

♂ *ad.* (Kan-su). Crown and crest mouse-grey, the forehead whitish; rest of the upper parts hair-brown, the rump rather yellower; wings and tail brownish grey with paler margins; a half collar round the hind neck pale isabelline; under parts pale isabelline, the throat and breast rather whiter; flanks tinged with pale reddish buff; bill blackish; legs slate-grey; iris brick-red. Culmen 0·45, wing 2·8, tail 2·1, tarsus 0·85 inch. Female similar but a trifle duller in colour; the young bird has the upper parts darker, and the under parts more uniformly coloured.

Hab. The province of Kansu in Mongolia, the S. Tetung Mountains, and Moupin.

Nothing appears on record respecting the habits of this species, which in Mongolia is found in the conifer woods in the lower mountain zone. It probably does not differ from *L. dichrous* (Hodgs.), of which it is an eastern form differing in having the upper parts browner and the under parts paler.

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ÆGITHALUS, Boie, 1822.

270. Penduline Titmouse.

ÆGITHALUS PENDULINUS.

Ægithalus pendulinus, (Linn.) Syst. Nat. i. p. 342 (1766); (Naum.) iv. p. 113, Taf. 97; (Gould), B. of E. ii. p. 159; Dresser, iii. p. 159, pl. 116; Gadow, Cat. B. Br. Mus. viii. p. 67; *Æg. consobrinus*, Swinhoe, P.Z.S. 1870, p. 133; Tacz. F. O. Sib. O. p. 446; Seebohm, B. Jap. Emp. p. 88.

Remiz penduline, French; *Pendolino*, Ital.; *Beutelmeise*, German; *Remez*, Russ.

♂ *ad.* (Piedmont). Forehead, and sides of head including the ear-coverts deep black, margin of frontal stripe tinged with rufous; crown and hind neck white with a faint blue-grey tinge; forepart of back chestnut; the rest and rump warm ochraceous; quills and tail blackish margined with white; the upper wing-coverts chestnut and black tipped with ochreous; chin and throat white, rest of under parts ochreous white; the breast marked with chestnut-red; bill horn; legs black; iris brown. Culmen 0·4, wing 2·15, tail 1·95, tarsus 0·5 inch. The female is rather duller in tinge, the head and neck greyer and the black on the head covers a smaller area. The young bird has no black on the head or chestnut on the back.

Hab. Southern Europe, Asia Minor, Central Asia, Siberia, China, and Japan.

In habits it is active and lively, and frequents both swampy and dry localities. Its call-note resembles that of the Wood-Wren, but is softer, and it does not become silent when approached by any one. It breeds late in May, and builds a very artistic nest, purse-shaped or globular, with a funnel-shaped entrance at the upper end, constructed of flax, hemp, bark-shreds, tree-cotton, or other vegetable substances closely felted together and occasionally of wool, or goats', camels', or horsehair. It is attached to the outer twigs of a tree or bush at from 6 to 50 feet above the ground, either near or above water or in a dry locality. The eggs, from 6 to 10 in number, are pure white, elongated oval, and measure about 0·68 by 0·40. Examples from Asia are, as a rule, smaller, and have a smaller and shorter bill, and have been separated under the names of *Æg. consobrinus*, Swinhoe, and *Æg. stoliczkæ*, Hume; but, it seems to me, without sufficient reason. I have specimens of this smaller form from the S. Ural.

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271. Subsp. Ægithalus castaneus.

Ægithalus castaneus, Severtz. Turk. Jevot. p. 136; Dresser, iii. p. 165, pl. 117; Gadow, Cat. B. Br. Mus. viii. p. 68; *Æg. caspius*, Bogd. Ptitz. Kavk. p. 91 (1879).

♂ *ad.* (Astrachan). Differs from *Æg. pendulinus* in having the crown, nape, and sides of the neck chestnut-red; the back deeper chestnut, the white margins to the wings and tail broader, and more chestnut on the breast. Culmen 0·4, wing 2·25, tail 2·05, tarsus 0·58 inch. The female has the crown and nape dull isabelline marked with chestnut and less chestnut on the breast.

Hab. Delta of the Volga.

In habits and nidification does not differ from *Æg. pendulinus*.

272. Subsp. Ægithalus coronatus.

Ægithalus coronatus, Severtz. Turk. Jevot. p. 136, pl. 9. fig. 3, (1873); Gadow, Cat. B. Br. Mus. viii. p. 68; *Æg. atricapillus*, Severtz. op. cit. p. 137, pl. 9, fig. 4.

♂ *ad.* (Turkestan). Resembles *Æg. pendulinus* but has the forehead, sides of the crown and nape black, the centre of the crown mottled black and white. Culmen 0·35, wing 2·1, tail 1·8, tarsus 0·52 inch.

Hab. Western Turkestan.

Does not differ in habits and nidification from *Æg. pendulinus*.

273. Subsp. Ægithalus macronyx.

Ægithalus macronyx, Severtz. Turk. Jevot. p. 137, pl. 9, fig. 8 (1873); Gadow, Cat. B. Br. Mus. viii. p. 69; *Æg. rutilans* var. *cucullata* et var. *pectoralis*, Severtz. op. cit. pl. 9, fig. 6, 7.

♂ *ad.* Differs from *Æg. coronatus* in having the chin, throat, sides of the neck and fore-neck blackish grey, centre of the crown, nape, and hind-neck pale brownish yellow; claws stronger. Culmen 0·4, wing 2 2, tail 1·85, tarsus 0·6 inch.

Hab. North-Western Turkestan.

Does not differ in habits or nidification from *Æg. pendulinus*.

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SUTHORA, Hodgs. 1838.

274. CHINESE SUTHORA.

SUTHORA WEBBIANA.

Suthora webbiana, Gray, P.Z.S, 1852, p. 70, pl. xlix ; Gould, B. of Asia, iii. pl. 72 ; Prjev. in Rowley's Orn. Misc. ii. p. 191 ; David and Oust. Ois. Chine. p. 208 ; Sharpe, Cat. B. Br. Mus. vii. p. 490.

♂ *ad.* Crown and nape pale reddish brown ; upper parts and tail pale ashy hair-brown, paler on the upper tail-coverts ; quills dark brown broadly margined with chestnut brown ; scapulars and wing-coverts like the back ; under parts pale brownish grey, paler on the centre of the abdomen ; sides of face, throat, and fore-neck tinged with pale vinous ; the flanks washed with brown ; bill short and stumpy, brown at base and yellow at tip ; legs greyish brown ; iris varying from reddish brown to clear yellow. Culmen 0·33, wing 2·2, tail 2·8, tarsus 0·85 inch. Sexes alike.

Hab. Mongolia, Southern Kan-su, Northern and Central China to Pekin, and the northern bend of the Hoang-ho river.

It frequents the mountains in the summer, descending to the plains in winter, where it collects in small flocks and is very sociable. It builds a neat, cup-shaped nest, and lays rich blue eggs similar in colour to those of *Accentor modularis*, but a trifle paler, which measure about 0·62 by 0·47.

275. SPECTACLED SUTHORA.

SUTHORA CONSPICILLATA.

Suthora conspicillata, David. Nouv. Archiv. Mus. Bull. vii. p. 14 (1871) ; id. and Oust. Ois. Chine, p. 211, pl. 65 ; Sharpe, Cat. B. Br. Mus. vii. p. 489 ; Berezovski and Bianchi, Ptitz. Gan-su. p. 66.

ad. Differs from *S. webbiana* in having the upper part of the head and neck chestnut-brown, a ring of white feathers round the eye, and the back wing-coverts and rump olivaceous ; throat with a few brown streaks ; bill yellow ; legs brown ; iris brown. Culmen 0·15, wing 2·35, tail 3·15, tarsus 0·9 inch.

Hab. Southern Kan-su, the borders of Koko-nor, Shen-si, and South Tsinling in China.

Inhabits mountainous districts, and is said not to differ from its congeners in habits. Nothing appears to be known respecting its nidification.

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276. Grey-Crowned Suthora.

SUTHORA PRJEVALSKII.

Suthora prjewalskii, Berezovski and Bianchi, Ptitz. Gan-su. p. 67, Tab. ii. fig. i. (1891); Dresser and Morgan, Ibis, 1899, p. 271.

ad. Differs from *S. webbiana* in having the crown and nape ash-grey, nasal feathers, lores, forehead, and a streak over the eyes to the nape cinnamon-black; lower back, scapulars, rump and upper tail-coverts dull olive, the upper back olivaceous grey; under parts dull greyish; edge of gape, chin, throat and upper breast cinnamon-red; bill rose colour, the tip white, the lower mandible tinged with yellow; legs bluish grey; iris brick-red. Culmen 0·31, wing 2·16, tail 2·76, tarsus 0·75 inch. Sexes alike.

Hab. Kan-su.

Frequents bamboo thickets and thin larch-woods at an altitude of 8,000 to 10,000 feet, and is said to resemble *Parus major* in habits. Nothing is known respecting its nidification.

SITTA, Linn., 1766.

277. Northern Nuthatch.

SITTA EUROPÆA.

Sitta europæa, Linn. Syst. Nat. i. p. 177 (1766); Dresser, iii. p. 169, pl. 118; Gadow, Cat. B. Br. Mus. viii. p. 342.

Spetmeise, Nöddehakker, Dan.; *Spetmeise Nödvackke*, Norweg.; *Nötväcka*, Swed.; *Pähkinänakkeli*, Finn.; *Popolsen*, Russ.

ad. (Sweden). Upper parts bright slate-blue; lores and a broad streak passing through the eye to the back black, on the sides of the crown slightly bordered with hoary grey; quills slaty brown externally margined with slaty blue; central tail-feathers slate-blue; the remainder black with a broad subterminal white band; under parts white, the flanks rich chestnut-red, and the under tail-coverts margined with chestnut-red; bill blackish horn; lower mandible whitish; legs yellowish grey; iris brown. Culmen 0·85, wing 3·5, tail 2·0, tarsus 0·8 inch. Sexes similar, except that the female has the flanks paler, and the abdomen tinged with rufous buff.

Hab. Scandinavia and North Russia, east to the Ural, where it merges into *S. uralensis*, a very closely allied subspecies.

In habits it is active and lively and climbs on the trunks and branches of the trees as actively as a Woodpecker searching

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amongst the crannies of the bark for its insect-food. It is generally seen singly or in pairs even in the winter, when it wanders about from place to place. It frequents woods, groves, and gardens, but does not affect pine-woods. Its call-note is a clear *psitt, psitt*, and in the spring it has a note not unlike the whistle of a curlew. It feeds on insects and their larvæ, and in the winter, seeds and nuts, of which it is very fond, and not unfrequently lays up a store for winter use, and generally has a favourite hole in a branch where it fixes the nut and cracks it with its powerful bill. It nests in the hole of a tree, which it plasters up with clay, leaving a suitably large entrance hole, and in April or May deposits 6 to 9 eggs, which are white, more or less boldly spotted and blotched with bright red, in size averaging about 0·8 by 0·6.

278. Subsp. Sitta uralensis.

Sitta uralensis, Licht. in Gloger's, Handb. Vögel, Deutschl, pp. 377, 388 (1834); Gadow, Cat. B. Br. Mus. viii. p. 342; Tacz. F. O. Sib. O. p. 199; *S. asiatica*, Temm. Gould, B. of E. iii. pl. 236.

♂ *ad.* (Siberia). Differs from *S. europæa* in having the under parts purer white, and less chestnut on the flanks, the hoary margin bordering the upper part of the black ocular stripe more distinct and is as a rule smaller. Culmen 0·67, wing 3·25, tail 1·8, tarsus 0·75 inch.

Hab. Siberia, south to Lake Baikal, and Japan.

This subspecies varies according to locality, and has been considerably subdivided by those ornithologists who go in for splitting. Western specimens are, as a rule, the largest, and approach nearest to true *Sitta europæa*. Taczanowski makes two subspecies, *Sitta baicalensis* and *Sitta albifrons* of the form inhabiting Siberia, the former of which I take to be true *S. uralensis*, as he describes it, as having no white on the forehead, and the latter, which has the forehead and superciliary stripe white, is the form found in Japan.

In habits and nidification this bird does not differ from *S. europæa*.

279. Subsp. Sitta amurensis.

Sitta amurensis, Swinhoe, P.Z.S. 1871, p. 350; Gadow, Cat. B. Br. Mus. viii. p. 345; Pleske, Prjevalsky's Reisen. ii. p. 173, Taf. ix. fig. 3.

Kimawari, Jap.

Ad. (Japan). Differs from *S. europæa* in having the sides of the breast, axillaries, abdomen, and flanks ochraceous buff, the flanks washed with chestnut. Culmen 0·75, wing 3·2, tail 1·75, tarsus 0·72 inch.

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Hab. Southern Siberia, Mongolia, N. China, and Japan.

This, an eastern representative of *S. cæsia*, does not differ from that species in habits. Specimens from Mongolia have the abdomen and flanks darker coloured, and that figured by Prjevalsky has these parts as dark as in *S. cæsia*. Those from Hakodadi, Japan, have the under parts white, with the very faintest tinge of buff on the abdomen, the forehead, and a broad supercilium white, and very little chestnut on the flanks. Others from Sapporo, Japan, have the upper parts similar, but the abdomen is pale buff. These run very small, measuring: culmen 0·68 to 0·72, wing 3·2, tail 1·67 to 1·7, tarsus 0·68 to 0·7 inch. One specimen from Khobdo, Mongolia, has the upper parts similar, but scarcely a trace of buff on the abdomen, it being nearly pure white, and measures only: culmen 0·7, wing 3·15, tail 1·65, tarsus 0·65 inch. These I take to be *Sitta amurensis clara*, Stejn, but some of these birds have so little trace of buff on the abdomen that it is difficult to know whether to refer them to *uralensis* or *amurensis*.

280. The Nuthatch.

SITTA CÆSIA.

Sitta cæsia, Meyer and Wolf, Taschenb. Deutsch. Vogelk. i. p. 128 (1870); Hewitson, i. p. 247, pl. 62 xii. fig. 4; Gould, B. of Gt. Brit. pl. xxii; Newton, i. p. 473; Dresser, iii, p. 175, pl. 119; Gadow, Cat. B. Br. Mus. viii. p. 347; Saunders, p. 113; Lilford, ii. p. 112, pl. 51; *S. europæa*, nec. Linn. Naum. v. p. 377, Taf. 139; *S. sinensis*, Verr. Nouv. Arch. Mus. Bull. vi. p. 34 (1871).

Torchepot, French; *Trepadeira*, Portug.; *Trepatroncos*, Span.; *Picchiotto*, Ital.; *Spechtmeise*, *Kleiber*, German; *Boomklever*, Dutch.

♂ *ad.* (Germany). Upper parts, wings, and tail as in *S. europæa*, but the entire under parts except the chin and throat are pale ochreous cinnamon; bill brownish horn; legs pale dull brown; iris brownish. Culmen 0·7, wing 3·3, tail 1·8, tarsus 0·8 inch. Sexes alike.

Hab. Great Britain and continental Europe down to Algeria, and from the Canary Islands east to Persia, reappearing in China.

In habits it agrees closely with *S. europæa*, and like that species is not a true migrant, but only a wanderer in the winter season. It frequents the same places, groves and gardens, and also feeds on insects and their larvæ, nuts, &c., and its nest and eggs are also similar.

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The colouration of the under parts varies in tone according to locality. British specimens are as a rule dullest, though occasionally one is as brightly coloured as any; and those from Italy and Asia Minor have the under parts most brightly coloured. *Sitta sinensis*, which inhabits China and eastern Tibet, is said to differ from the European bird, merely in being somewhat smaller in size.

Seebohm named a form which he says inhabits Pomerania the Baltic provinces, Poland, and the Crimea, *Sitta homeyeri*, as being intermediate between *S. cæsia* and *S. europæa*, but after an examination of his specimens and those in my collection it seems to me that this form cannot be separated from *S. europæa*. It has the abdomen tinged with cream colour, and I have examined Scandinavian examples of *S. europæa*, which also have the abdomen slightly washed with cream colour.

281. Krueper's Nuthatch.

SITTA KRUEPERI.

Sitta krueperi, von Pelz. Sitz. kaiserl. Akad. Wissensch, Wien. xlviii. Abth. i. p. 149 (1863); Sclater, Ibis. 1865. pl. vii; Dresser, iii. p. 189, pl. 121; Gadow, Cat. B. Br. Mus. viii. p. 350.

♂ *ad.* (Smyrna). Upper parts slaty blue, the forehead black to the centre of the crown; quills brown externally margined with slate-blue; central tail-feathers like the back, the rest black tipped with grey, and with white subterminal spots; lores and an indistinct line through the eye black; cheeks, throat, and sides of head white, rest of the under parts dull slate-grey; a large crescentic patch on the breast chestnut-red; thighs and under tail-coverts marked with rusty red; bill dark horn, lighter at base; legs slate-grey; iris brown. Culmen 0·6, wing 2·9, tail 1·5, tarsus 0·65 inch. Female similar but is duller in colour, and the young bird lacks the black on the forehead, and the stripe through the eye is greyish.

Hab. Asia Minor, Palestine, and Syria.

In habits it is active and restless, and resembles our European bird or the Tree-Creeper. It has a variety of call-notes, one not unlike the call-note of a canary, and another not unlike the monotonous note of *Parus major*, but more guttural. It feeds on insects and their larvæ, and seeds, especially those of conifers, and is most often seen in conifer woods. Unlike *Sitta cæsia*, it does not plaster up a hole to form its nest, but hacks a hole in a rotten branch or tree stump, which it lines with dry grass, hair, thistledown, and feathers, and deposits in May 4 to

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6 eggs, which are white, marked with red, roundish in shape, and somewhat resemble the eggs of *Parus major*, but are rounder and more richly marked, and in size measure about 0.67 by 0·53.

282. Corsican Nuthatch.

SITTA WHITEHEADI.

Sitta whiteheadi, Sharpe, P.Z.S. 1884, p. 233, pl. xxxvi; Whitehead, Ibis, 1885, pl. ii; Dresser, ix. p. 133, pl. 662.

♂ *ad.* (Corsica). Crown, nape, and a line passing over the ear-coverts deep black; superciliary stripe, sides of head, and under parts white; upper parts and central tail-feathers pale slate-blue, the latter with black subterminal bands; remaining tail-feathers black, tipped with white; quills blackish, externally margined with slate-blue; bill blackish, light blue at the base; legs plumbeous; iris brown. Culmen 0·7, wing 2·8, tail 1·6, tarsus 0·8 inch. The female differs in being duller and having the crown slate-grey tinged with black.

Hab. Corsica, where it is resident.

In general habits it resembles the other Nuthatches, and frequents woods and groves. Its call-note is a soft whistle repeated quickly many times, often ending with a peculiar hissing sound, *sch-wer*, *sch-wer*. It is tame and fearless, only moving a short distance away when the nest is attacked. It excavates its nest in a rotten bough or tree trunk like Krüper's Nuthatch, lining the hole with fine bark strips, moss, feathers, and hair, and in May deposits 5 or 6 white eggs, thickly speckled with deep red, in size about equal to those of *Parus major*, resembling those of *Sitta krueperi*, but rather smaller and more boldly marked.

283. Chinese Nuthatch.

SITTA VILLOSA.

Sitta villosa, Verr. Nouv. Archiv. Mus. Bull. 1. p. 78, pl. 5. fig. 1 (1865) David and Oust. Ois. Chine, p. 91, pl. 13; Gadow, Cat. B. Br. Mus. viii. p. 355.

Ad. (China). Differs from *S. whiteheadi* merely in having the black on the crown extending to the upper part of the back, and the breast and abdomen warm buff and not white. Culmen 0·67, wing 2·6, tail 1·4, tarsus 0·65 inch.

Hab. Northern China, Alaschan and Kan-su, where it is resident.

It is said not to differ from *S. whiteheadi* in habits, and probably also not in nidification, but its nest and eggs are not known.

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Sitta canadensis, which inhabits North America, differs but little from the present bird, in having the under parts except the chin rusty brown, and in having a black patch on the side of the head, extending over the ear-coverts and part of the sides of the neck.

284. Mongolian Nuthatch.

SITTA PRJEVALSKII.

Sitta prjewalskii, Berezovski and Bianchi, Ptitz. Gan-su. p. 119 (1891), Pleske, Prjevalsky's Reisen, ii. p. 174, Taf. ix. fig. 4; *Sitta ekloni*, Prjev. Tret. pyt. no. Centr. Asie. p. 368 (nomen nudum).

♂ *ad.* Forehead, crown, and nape deep blue-black; upper parts deep slate-blue, the rump rather paler; wings blackish, externally margined with dark slate-blue; central tail-feathers like the back, the rest black, tipped with slate-blue, the outer ones with a subterminal white patch on the inner web; chin, sides of the head, and neck dull white tinged with rusty rufous; rest of under parts ochreous; the sides of the breast and flanks rusty chestnut; bill black; the base of lower mandible paler; legs brownish; iris dark brown. Culmen 0·7, wing 2·9, tail 1·7 tarsus 0·71 inch. Sexes alike.

Hab. The Chuanche river district, Mongolia.

I find nothing on record respecting the habits of this species except that it frequents the conifer woods, and that its call-note somewhat resembles that of the Wryneck. It is closely allied to *Sitta leucopsis*, Gould, from which it differs merely in having more rufous on the under parts. I have not been able to compare specimens in order to convince myself that it is specifically separable.

285. Rock Nuthatch.

SITTA NEUMAYERI.

Sitta neumayeri, Michah. Isis. 1830 p. 814; Dresser, iii. p. 183, pl. 120; Gadow, Cat. B. Br. Mus. viii. p. 345; *S. rufescens*, Gould, B. of E. iii. pl. 235; *S. rupicola*, Blanf., Ibis. 1873, p. 87.

Picchiotto-rupestre, Ital.; *Tsopanakos*, Greek; *Felsenspechtmeise*, German; *Popolzen-skalistyi*, Russ.

♂ *ad* (Macedonia). In general appearance resembles *S. europæa* but differs in lacking the chestnut on the under parts, the flanks, abdomen and under tail-coverts being warm rufous buff, the tail dark plumbeous-grey without any white, the central feathers and outer webs of the rest coloured like the back; beak blackish horn; legs plumbeous; iris dark brown. Culmen 0·9, wing 3·0, tail 1·8, tarsus 0·9 inch. Sexes alike.

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Hab. Dalmatia and Greece, ranging east through Asia Minor to northern Persia.

Although to a casual observer this species somewhat resembles *S. europæa*, it differs widely in its habits, for it frequents barren rocks, and is not found on trees. Its food consists chiefly of insects of various kinds and their larvæ Its note is said to be very loud, and to differ considerably from that of *Sitta cæsia*. It breeds in the rocks, selecting a suitable recess, in front of which it builds a covering of mud, having a funnel-shaped entrance. The inside is well lined with goats' hair, thistle-down, &c., and the eggs, from 6 to 10 in number, are deposited late in April, and are white, with large red spots and blotches scattered over the surface. They are larger and stouter than those of *S. cæsia* and *S. europæa*, and measure about 0·84 by 0·64.

286. Subsp. Sitta syriaca.

Sitta syriaca, Ehr. in Temm. Man d'Orn. iii. p. 286 (1835); Gadow, Cat. B. Br. Mus. viii. p. 346; Dresser, ix. p. 137; *S. tephronota*, Sharpe, Ann. and Mag. Nat. Hist. 1872, x. p. 450.

♂ *ad.* (Kokand). Differs from *Sitta neumayeri* in being larger in size, the upper parts paler, the throat and sides of the neck white with a creamy tinge, and the black stripe along the sides of the head is rather broader and extends further down the neck. Culmen, 1·02, wing 3·4, tail 2·3, tarsus 1·05 inch. Sexes alike.

Hab. Transcaspia, Persia, Afghanistan, and Turkestan.

Is merely a large pale race of *Sitta neumayeri*, and does not differ in habits or nidification from that species.

CERTHIA, Linn., 1766.

287. Tree-Creeper.

CERTHIA FAMILIARIS.

Certhia familiaris, Linn. Syst. Nat. i. p. 184 (1766); Naum. v. p. 398, Taf. 140; Hewitson, i. p. 243, pl. lxii. fig. 2; Gould, B. of E. pl. 237; id. B. of Gt. Brit. ii. pl. 64; Newton, i. p. 468; Dresser, iii. 195, pl. 122; Gadow, Cat. B. Br. Mus. viii. p. 323; Tacz. F. O. Sib. O. p. 204; Saunders, p. 117; Lilford, ii. p. 114, pl. 52.

Grimpereau familier, French; *Trepadevia, Atrepa*, Portug.; *Trepatroncos, Areñero*, Span.; *Rampechino*, Ital.; *Baumläufer*, German; *Boomkruipertje*, Dutch; *Trœpikker, Trælöber*, Dan.; *Trækryber*, Norweg.; *Trädkrypare*, Swed.; *Punkiipija*, Finn.; *Pishchuka Sverchok*, Russ.; *Kibashiri*, Jap.

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♂ *ad.* (England). Upper parts dark brown striped with pale ochreous, the lower back, rump, and upper tail-coverts rufous brown; quills excepting the three first with a broad bar of buffy white across the middle and a second in the folded wing towards the end, and tipped with the same colour; tail uniform pale brown, the shafts rufous; a white streak over the eye; under parts silky white tinged with buff on the flanks and under tail-coverts; bill curved, dark horn-brown, paler below; legs light brown; iris brown. Culmen 0·7, wing 2·5, tail 2·45, tarsus 0·65 inch. Sexes similar. The young bird resembles the adult but has the upper parts dull dark brown spotted with yellowish, and faintly shaded with rusty ochreous; bill very short and almost straight; under parts greyish white, duller on the vent and flanks.

Hab. Europe; N.W. Africa; Asia east to Japan, and south to the Himalayas, and N. China; North America south to Mexico.

In general habits this is a quiet and unobtrusive bird, but busy and restless, appearing to be always on the move climbing spirally up the trunks of trees, carefully examining the bark for its insect food. It is not a migrant, but a wanderer in the winter season, like the Titmice, with which if often then consorts, and frequents woods and groves both of conifer and non-evergreen trees, gardens, &c. Its call-note is a soft cheep, and its song, which is heard in the spring and early summer, is simple but pleasing. It feeds on insects and their larvæ, and to a smaller extent on seeds when insects are scarce. It breeds usually in April, placing its nest in a cleft or behind the loose bark of a tree, occasionally behind loose plaster or in the foundation of the nest of a bird of prey or a rook, and generally raises two broods in the year. The nest is constructed of grass, fine roots and strips of bark, wool, hair, feathers, &c., and is usually rather compressed and deep. The eggs, from 5 to 9 in number, are white, spotted and blotched with reddish-brown and dull red, the markings being frequently collected round the larger end, and measure about 0·62 by 0·49.

Being subject to slight, often only individual variation, this species has by various authors been split up into many subspecies. Thus, those inhabiting the Palæarctic area have been subdivided as follows: *Certhia familiaris L.* (North, Central, and South Europe), *C. brachydactyla*, Brehm (Central Europe); *C. britannica*, Ridgw. (Great Britain); *C. scandulacea*, Pall. (Eastern Europe and Siberia); *C. hodgsoni*, Brooks (Kashmir); *C. japonica*, Hartert(Hondo and Nippon, Japan); and those inhabitating the Nearctic area as follows: *C. americana*, Bp. (Eastern North America); *C. montana*, Ridgw. (Rocky Mountains,

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north to Alaska); *C. occidentalis*, Ridgw. (California to Sitka); *C. alticola*, Miller (Mexico, Guatemala, and S. Arizona); and *C. albescens*, Berlepsch (N.W. Mexico and Arizona). I cannot, however, see my way to recognise any of these subspecies, but unite them all under *Certhia familiaris*.

288. Himalayan Tree-Creeper.

CERTHIA HIMALAYANA.

Certhia himalayana, Vigors, P.Z.S. 1831, p. 174; Gould, B. of Asia, ii, pl. 17; Gadow, Cat. B. Br. Mus. viii. p. 327; Oates, F. Brit. Ind. i. p. 329; *C. tæniura*, Severtz. Turk. Jevot. pp. 66, 128 (1873); Dresser Ibis, 1876, p. 176.

Ad. Turkestan. Differs from *C. familiaris* in having the upper parts blackish striped with fulvous, the rump and upper-tail coverts tinged with ferruginous, the tail regularly cross-barred with black; under parts white tinged with isabelline; upper mandible blackish; lower mandible fleshy; legs fleshy; iris dark brown. Culmen 0·98, wing 2·95, tail 2·80, tarsus 0·66 inch.

Hab. Turkestan, Afghanistan, and the Himalayas to China.

This is a large paler form of the Himalayan bird, and by those who would recognise it as a subspecies would be called *C. tæniura*; but I cannot see my way to separate it from true *C. himalayana*. In habits it closely resembles *C. familiaris*, and its nest and eggs do not differ from those of that species.

TICHODROMA, Illiger, 1811.

289. Wall-Creeper.

TICHODROMA MURARIA.

Tichodroma muraria, Linn. Syst. Nat. i. p. 184 (1766); Naum. v. p. 421, Taf. 141; Gould, B. of E. iii. pl. 239; Dresser, iii. p. 207, pl. 123; Gadow, Cat. B. Br. Mus. viii. p. 331; Oates, F. Brit. Ind. Birds, i. p. 334; Saunders, p. 119; Lilford, ii. p. 116, pl. 53; Baedeker, Eur. Eier. Vög. Taf. 43, No. 5, (eggs).

Grimpereau de muraille, French; *Arañero*, Span.; *Piccio murajola*, Ital.; *Tsopanakos-kokkinos*, Greek; *Alpen Mauerklette*, German; *Stenolas*, Russ.

♂ *ad.* (Switzerland). Upper parts slate-grey, darker on the head and rump; quills blackish tipped with white, the 2nd to the 5th with a basal and sub-apical white spot on the inner web, the 6th with a buff basal spot, the primaries with the outer web, and the wing-coverts almost entirely

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crimson ; tail black tipped with grey and white ; under parts slate-grey, the throat and upper breast deep black ; bill curved, it and legs black ; iris brown. Culmen 1·25, wing 3·85, tail 2·3, tarsus 0·9 inch. The female is clearer grey and has less black on the throat. In winter both sexes have the upper parts clearer grey and the throat is white, not black. The young resemble the adult in winter dress but are duller and have the bill shorter and quite straight.

Hab. The alpine regions of Central and South Europe, Asia and North Africa ; a rare straggler to Great Britain.

Frequents the faces of rocks and precipices, flitting and creeping about them as the Creeper does the trunks and branches of trees in search of its insect-food, and, like that bird, is active and continually on the move with a side-long, crab-like motion, expanding and closing its wings like a large butterfly. As a rule it is wild and shy, and by no means easy to secure. Its call-note is said to be not unlike that of the Lesser Spotted Woodpecker, resembling the syllables *pli-pli-pli-pli*, and its Creeper-like song consists of several short, loud, melodious strophes in which the notes *di didi zää* are frequently repeated with variations. During the summer it frequents the mountains at considerable altitudes, descending into the valleys on the approach of winter. It breeds in the crannies and fissures of rocks, the nest being a mass of moss, hair, wool, &c., like a large Tree-Creeper's nest. and the eggs, 3 or 4 in number, are white, finely dotted with brownish red, oval in shape, and measure about 0·8 by 0·6. They are usually deposited early in June.

TROGLODYTES, Cuv., 1817.

290. WREN.

TROGLODYTES PARVULUS.

Troglodytes parvulus, Koch, Baier. Zool. i. p. 161 (1816) ; Naum. iii. p. 725, Taf. 83, fig. 4 ; Dresser, iii, p. 219, pl. 124, fig. 1 Newton, i. p. 460 ; Saunders, p. 115 ; Lilford, ii. p. 120, pl. 54 ; Baedeker, Eier, Eur. Vög. Taf. 43, fig. 1 (eggs) ; *T. europæus*, (Vieill.) Gould, B. of E. ii. pl. 130 ; id. B. of Gt. Brit. ii. pl. 63 ; *Anorthura troglodytes*, (L.) Macg. iii. p. 15 ; Sharpe, Cat. B. Br. Mus. vi. p. 269.

Roitelet, French ; *Carricinha das moitas*, Portug. ; *Cucito, Ratilla*, Span. ; *Re di macchia*, Ital. ; *Zaunkönig*, German ; *Winterkoning*, Dutch ; *Gjerdesmutte*, Dan. ; *Gjerdevippe*, Norweg. ; *Gärdsmyg*, Swed. ; *Peukaloinen*, Finn. ; *Krapivnik*. Russ.

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♂ *ad.* (England). Upper parts reddish brown transversely barred with dark brown; under parts buffy white, the belly and flanks browner, the latter slightly barred; a dull white streak over the eye; outer quills barred with blackish brown and dull brownish white on the outer web; bill horn-brown, paler at base of lower mandible; legs light brown; iris brown. Culmen 0·6, wing 1·9, tail 1·4, tarsus 0·74 inch. The female is somewhat duller in colour and the under parts are browner, and the young are rather more spotted above and less barred on the underparts.

Hab. Europe generally; Asia Minor, east to Persia; N. Africa.

Confiding, trustful, and active in its movements, the Wren is one of our best known birds. It frequents gardens, outhouses, and groves, and appears to prefer the vicinity of man. Its flight is short and weak, but it creeps about the underbrush and hedges like a mouse, and with the greatest ease. Its call-note is sharp and clicking, and its song, which is uttered throughout most of the year, is loud, shrill, and pleasing. It feeds chiefly on insects and their larvæ, but also to some extent in the autumn on berries. It commences nidification early, building an oven-shaped nest of grass, moss, and lichens, with an entrance-hole on the side, and lines it with feathers. It is placed in a bush, against a tree, a wall or a bank, or in a thatch-roof. The eggs, which are deposited from the middle of April to June, are usually from 6 to 8 in number, and are white, more or less spotted with red, and measure from 0·63 by 0·47 to 0·68 by 0·50. Seebohm described the St. Kilda Wren as distinct, naming it (Zool. 1884, p. 333) *T. hirtensis*; and Dr. Stejneger separates the bird from S.W. Norway as *T. bergensis*, but I cannot concur in either of these separations.

291. Subsp. Troglodytes pallidus.

Troglodytes pallidus, Hume, Stray Feathers, iii. p. 219, footnote (1873); (Sharpe), Cat. B. Br. Mus. vi. p. 273; Dresser, ix. p. 141.

Ad. (Turkestan). Differs from *T. parvulus* in being much paler and greyer lacking the warm rufous tinge on the upper parts; under parts greyish white without any rufous or buff tinge. Culmen 0·5, wing 1·9, tail 1·35, tarsus 0·72 inch.

Hab. Transcaspia east to Eastern Turkestan.

In general habits it does not appreciably differ from *T. parvulus*, of which it is a pale desert form.

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292. NORTHERN WREN.

TROGLODYTES BOREALIS.

Troglodytes borealis, Fischer. J.f.O. 1861. p. 14, pl. i; Baedeker, Eier, Eur. Vög. pl. 76, fig. 6 (egg); Dresser, iii. p. 229, pl. 124, fig. 2; (Sharpe), Cat. B. Br. Mus. vi. p. 272.

Mousabrouir, Færoese; *Músarbródir*, *Rindill*, Icelandic.

♂ *ad.* (Færoe). Resembles *T. parvulus* but is darker and has the under parts more strongly barred, the beak longer and stouter and the legs and feet much stouter. Culmen 0·65, wing 2·1, tail 1·5, tarsus 0·88 inch. Sexes alike.

Hab. Iceland and the Færoes.

In general habits it does not differ from *T. parvulus*, but its song is said to be louder. Its nest is rather larger and stouter than that of the Common Wren, is constructed of hay and well lined with feathers, and the eggs resemble those of that species, but are considerably larger, measuring 0·71 by 0·51.

MOTACILLA, Linn., 1766.

293. PIED WAGTAIL.

MOTACILLA LUGUBRIS.

Motacilla lugubris, Temm. Man. d'Orn. i. p. 253 (1820); Newton, i. p. 538; Dresser, iii. p. 239, pl. 125, fig. 3, 126, fig. 2; Sharpe, Cat. B. Br. Mus. x. p. 460; Saunders, p. 121; Lilford, iii. p. 101, pl. 52; *M. yarrelli*, Gould, B. of E. pref. to vol. ii. (1837); id. B. of Gt. Brit. iii. pl. 1; Hewitson, i. p. 163, pl. xli. figs, 1, 2; Naum. xiii. pt. 2, p. 114, Taf. 377, fig. 1.

♂ *ad.* (England). Head, neck, upper parts, throat and breast deep black; wing-coverts and inner secondaries externally margined with white; two outer tail-feathers nearly white; rest of tail black; forehead, sides of head and of neck and belly white; flanks blackish; bill and legs black. Culmen 0·6, wing 3·6, tail 3·75, tarsus 1·0 inch. The female has the back tinged with dark grey and the tail is shorter, and in winter both sexes lose the black on the chin and throat and are greyer. The young have the upper parts dull grey tinged with olive-buff, the throat, sides of neck, and breast buffy white tinged with yellowish, the lower throat and breast marked with black.

Hab. Great Britain and Western Europe as far east as southern Scandinavia, wintering in southern Europe as far east as Sardinia and Sicily, and in N. W. Africa.

Frequents gardens and meadows, especially where the soil is moist, and near water, feeding on insects of various kinds, small

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crustacea and mollusca. It runs with ease and grace, and vibrates its body and tail. Where cattle are pasturing it often attends them to capture the insects they disturb, and will also follow the plough. Its call-note is a pleasant sharp *cheep*, and the male has a modulated rather simple song, which, however, is not often heard. Nidification commences in April or early in May, and the nest, which is placed in a hole, in an old wall, in a faggot stack, in a bank, or stone heap, is constructed of grass-stems, moss, and fine roots, and lined with wool, hair, or feathers. The eggs, 5 or 6 in number, are french white spotted and marked with greyish-brown, and are indistinguishable from those of *M. alba*.

294. Japanese Pied Wagtail.

MOTACILLA LUGENS.

Motacilla lugens, "Pall." Kittlitz. Kupf. Vög. p. 16, pl. 21, fig. 1 (1832); Sharpe, Cat. B. Br. Mus. x. p. 474, pl. iv. figs. 1–4; *M. japonica*, Swinhoe, Ibis. 1863, p. 309; *M. amurensis*, Seebohm, Ibis, 1878, p. 345, pl. ix; *M. blakistoni*, id. Ibis. 1883, p. 91; *M. camtschatica*, Tacz. Bull. Soc. Zool. France, 1882, p. 388.

♂ *ad.* (Japan). Differs from *M. lugubris* in having a narrow black streak passing through the eye, much more white on the wings, the median and larger coverts especially being almost entirely white, and the chin is also white. Bill and legs black; iris dark brown. Culmen 0·6, wing 3·8, tail 3·85, tarsus 0·95 inch. In the winter the upper parts are blackish grey and there is much less black on the throat and neck. This species differs from *Motacilla ocularis* only in having the back black, not grey, and in having more white on the wings.

Hab. Eastern Siberia, Kamchatka, and Japan, rare in China and Formosa.

In general habits it does not differ from its allies, frequenting damp localities, especially meadow-land, feeding on insects of various kinds. Its nest resembles that of *M. alba*, but is constructed of somewhat different materials, frequently of the leaves of an aquatic plant, and lined with hair of deer. The eggs, 5 or 6 in number, are french white rather boldly marked with greyish brown.

295. White-faced Wagtail.

MOTACILLA LEUCOPSIS.

Motacilla leucopsis, Gould, P.Z.S. 1837, p. 78; Sharpe, Cat. B. Br. Mus. x. p. 482; Oates F. Brit. Ind. Birds, ii. p. 288; *M. luzoniensis* (nec. Scop.), Gray, Cat. Mamm. &c., Nepal. p. 75; Jerd. B. of Ind. ii. p. 118.

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Dhobin, Hindu ; *Tangzhenfleu*, Lepch.

♂ *ad.* (E. Siberia). Differs from *M. lugubris* in having the wings as white as in *M. lugens*; forehead to the middle of the crown, sides of head and neck and upper throat pure white, the lower throat and upper breast deep black. Culmen 0·55, wing 3·55, tail 3·7, tarsus 0·87 inch. In the winter the upper parts are greyer, and the black on the under parts is reduced to a crescentic patch on the upper breast.

Hab. Eastern Siberia, Himalayas, China, wintering in Southern China, the plains of India from Assam to Central Tenassarim, west to Mirzapur, also the Andaman Islands.

It does not differ from its allies in general habits, and probably its nest and eggs are similar, but I do not find any description of them. It is said to breed in Southern Dauria, Chinese Manchuria, and in China.

296. Hodgson's Wagtail.

MOTACILLA HODGSONI.

Motacilla hodgsoni, Gray, Blyth, Ibis. 1865, p. 49 ; Sharpe, Cat. B. Br. Mus. x. p. 486, pl. v. figs. 1, 2 ; Oates, F. Brit. Ind. Birds, ii. p. 291 ; *M. alboides*, Hodgs. As. Rev. xix. p. 191, 1836 (partim).

♂ *ad.* (Turkestan). Differs from *M. lugubris* in having more white on the wing-coverts, and there is more black on the head, the white being restricted to a frontal band, the region round the eye and a patch behind the eye. In the changes of plumage it follows *M. lugubris*. Bill and legs black ; iris brown. Culmen 0·62, wing 3·65, tail 3·70, tarsus 0·94 inch. In the winter dress the adult has the chin white.

Hab. Turkestan, Kashmir, the Himalayas, east to western China, wintering in the lower ranges of the Himalayas south to Tenasserim, a few visiting the plains of India.

In general habits it does not differ from its allies. It breeds in Kashmir about May, placing its nest in holes under stones, among shingle and pebbles, and on heaps of driftwood and rubbish. The eggs, which are greyish white, speckled with brown and grey, average in size about 0·78 by 0·62.

297. Large Pied Wagtail.

MOTACILLA MADARASPATENSIS.

Motacilla madaraspatensis, Gmel. Syst. Nat. i. p. 961 (1788) ; Gould, B. of Asia, iv. pl. 61 ; Sharpe, Cat. B. Br. Mus. x. p. 490 ; Oates, F. Brit. Ind. Birds, ii. p. 291.

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Mamula, Khanjan, Hindu; *Sakala sarela-gadu*, Tel.

♂ *ad.* (India). Differs from *M. lugubris* in having no white on the head or neck excepting a broad superciliary stripe from the nostril to the ear-coverts, passing above these to their end; lesser and median wing-coverts black; larger wing-coverts nearly all white. Bill and legs black; iris brown. Culmen 0·68, wing 3·75, tail 4·1, tarsus 1·05 inch. There appears to be no seasonal change of plumage, and the female resembles the male, but has the upper parts tinged with grey and is considerably smaller. In the young bird the black is replaced by greyish brown, the supercilium in front of the eye is wanting, and the white portions of the plumage are tinged with fulvous.

Hab. Turkestan, India from Kashmir and Sind to Sikhim and Western Bengal, Ceylon. In India it is a permanent resident, occurring in the Himalayas in summer to an altitude of 3,000 feet, and breeds also in the plains of India.

In general habits it resembles the European bird, and frequents river-banks, ponds, brooks, &c. In the breeding season it is said to utter a pleasing song. It breeds from March to May, the nest being constructed of grass-bents, rootlets, fine twigs, and vegetable fibres, and lined with hair, wool, or feathers. It is placed in a hole in a bank, under stones, in the woodwork of bridges, or any such suitable place, and the eggs, usually 4 in number, are dull white or greenish white spotted and blotched with different shades of brown, and measure about 0·90 by 0·66.

298. White Wagtail.

MOTACILLA ALBA.

Motacilla alba, Linn. Syst. Nat. i. p. 331 (1766); Naum. iii. p. 803, Taf. 86, figs. 1–3; Hewitson, i. p. 165, pl. xli, figs. 3, 4; Gould, B. of Gt. Brit. iii. pl. 2; Newton, i. p. 548; Dresser, iii. p. 233, pls. 125, 126; Sharpe, Cat. B. Br. Mus. x. p. 464; Saunders, p. 123; Lilford, iii. p. 106 pl. 53; *M. dukhunensis*, Sykes, P.Z.S. 1832, p. 91.

Lavandière, French; *Pispita*, Span.; *Ballerina*, Ital.; *Mizizi*, Moor.; *Weisse Bachstelze*, Germ.; *Witte Kwikstaart*, Dutch; *Hvid Vipstjert*, Dan.; *Linerle*, Norweg.; *Sädesärla*, Swed.; *Pestur*, Lapp.; *Veästäräkki*, Finn.; *Bieloe Tresogushka*, Russ.; *Márin-Erla*, Icel.

♂ *ad.* (Germany). Forehead to the middle of the crown, sides of head and neck, and underparts from the breast white; hind crown and neck, chin, throat, and upper breast jet black; upper parts, scapulars, and

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lesser wing-coverts clear grey; wings black margined with white; two outer tail-feathers nearly white, the rest black. Bill and legs black; iris brown. Culmen 0·55, wing 3·55, tail 3·65, tarsus 0·9 inch. The female is rather greyer than the male and in winter dress the black on the breast is reduced to a crescentic patch. This species differs from *M. lugubris* in having the back clear grey, not black in summer, and much paler grey in winter, and in immature dress the upper parts are much greyer.

Hab. Europe generally, as far north as Iceland; N. Asia, wintering in the plains of India as far south as Belgaum, and in Burma as Moulmein; and also in Northern Africa as far south as Senegambia.

In general habits it does not differ from *M. lugubris*, and its nest and eggs closely resemble those of that species, with which, indeed, it is said to interbreed. It is a regular migrant to Great Britain, but M. *lugubris* is the common British species, and not *M. alba*.

299. Subsp. Motacilla baicalensis.

Motacilla baicalensis, Swinhoe, P.Z.S. 1871, p. 363; Sharpe, Cat. B. Br. Mus. x. p. 470.

♂ *ad.* (Lake Baikal). Differs from *M. alba* merely in having the white on the crown extending rather further back, and more white on the shoulders, that on the middle and larger wing-coverts almost entirely hiding the black at the base. Culmen 0·52, wing 3·5, tail 3·7, tarsus 0·95 inch.

Hab. Eastern Siberia, wintering in China.

This species is merely an eastern form of *M. alba*, from which it does not differ in general habits or nidification. It breeds in the southern Baikal district and in Dauria.

300. Masked Wagtail.

MOTACILLA PERSONATA.

Motacilla personata, Gould, B. of Asia, iv. pl. 63 (1861); Sharpe, Cat. B. Br. Mus. x. p. 479, pt. v. figs. 3, 4; Dresser, ix. p. 143, pl. 663; Oates, F. Brit. Ind. Birds, ii. p. 290; *M. personata* var. *persica*, Blanf. E. Pers. ii. p. 232; Sharpe, tom. cit. p. 479.

Tresogushka, Russ.; *Kok-sunduk*, Turki; *Dhobin*, Hindu.

♂ *ad.* (Central Asia). Differs from *M. alba* in having the black on the head and neck much further extended, the secondaries and wing-coverts more broadly margined with white, the black on the head con-

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tinued to the fore part of the back, the sides of the neck, and the fore part of the breast, the white restricted to a broad frontal band, the region round the eye, and a small patch behind the eye. Sexes alike. In the winter the feathers on the crown are margined with grey, those on the throat with white, and the upper parts are duller grey. Culmen 0·65, wing 3·75, tail 3·8, tarsus 1·05 inch.

Hab. Siberia, Central Asia, west to Transcaspia, and east to Calcutta, wintering in the lowlands of Transcaspia and in India.

In general habits it is said to assimilate closely with *M. alba*. It breeds in Transcaspia and Afghanistan, and places its nest near water under a large stone, in a hole, or amongst the roots of a tree, and deposits in May or June 4 or 5 eggs, which are dull white or greenish white marked with grey and brown, and resembling those of *M. alba*.

Motacilla persica (Sharpe *op. cit.* x. p. 479, pl. v. figs. 5, 6) appears to me to be a bad species, and is intermediate between *M. alba* and *M. personata*, but closer to the latter than the former, to which I have therefore referred it.

301. Streak-eyed Wagtail.

MOTACILLA OCULARIS.

Motacilla ocularis, Swinhoe, Ibis. 1860, p. 55; Nelson. Cruise, S. S. "Corwin" p. 62, pl. 2; Turner, Contrib. Nat. Hist. Alaska, p. 178, pl. xi; Sharpe, Cat. B. Br. Mus. x. p. 471, pl. iv. figs. 5, 6; Oates, F. Brit. Ind. Birds, ii. p. 289.

♂ *ad.* (E. Siberia). Differs from *M. alba* in having a black streak passing from the lores through the eye and over the ear-coverts.

Hab. Kamchatka, Eastern Siberia, Mongolia, and China, wintering in southern China, Assam, Manipur, and Nepal, and straying to N.W. America.

In general habits it does not differ from its allies.

302. Grey Wagtail.

MOTACILLA MELANOPE.

Motacilla melanope, Pall. Reis. Russ. Reichs. iii. p. 696 (1776); Dresser, iii. p. 251, pl. 128; Sharpe, Cat. B. Br. Mus. x. p. 497; Oates, F. Brit. Ind. Birds, ii. p. 293; Saunders, p. 125; *M. boarula*, (nec. Scop.) Linn. Mantissa, p. 527 (1771); Hewitson, i. p. 167, pl. xlii. fig. 1; Gould, B. of E. ii. pl. 147; *M. sulphurea*, Bechst. Naturg. Deutschl. iii. p. 459 (1807); Newton, i. p. 552; Naum. iii. p. 824, Taf. 87; Lilford, iii. p. 108, pl. 54.

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Bergeronnette jaune, French; *Alvelôa amarella*, Portug.; *Cuttirettola*, Ital.; *Graue Bachstelze*, Germ.; *Groote gele Kwikstaar*- Dutch; *Graa Vipstjert*, Dan.; *Grådärla*, Swed.; *Gornaya-Tresogushka*, Russ.

♂ *ad.* (Scotland). Crown, nape, and upper parts dark ash tinged with olivaceous; rump and upper tail-coverts greenish yellow; wings and tail blackish with paler margins, the outer tail-feathers white; supercilium and a streak on the side of the throat white; chin and throat black; rest of under parts canary-yellow; flanks washed with grey; bill blackish; legs fleshy brown; iris brown. Culmen 0·6, wing 3·25, tail 3·9, tarsus 0·85 inch. The female is duller and paler in colour and has the throat greyish white slightly marked with black. In the winter the throat is white in both sexes, the under parts are paler, and the pale margins on the secondaries are broader.

Hab. Europe generally as far north as Great Britain and Denmark; the Azores, Canaries, and Madeira, northern and central Asia as far east as Japan, wintering in northern Africa, India, Burma, and the Malayan Peninsular and islands.

It frequents rocky burns and running water in hilly and mountainous districts, and is seldom found on the plains or in meadows, and is as a rule shyer than the other species of Wagtail, especially when it finds itself followed. Its call-note is a sharp *zis-zit*, uttered several times in succession, and in the spring the male utters a softer note, which, however, cannot be called a song. Like its allies it feeds on insects, chiefly aquatic, and their larvæ. The nest is almost always near water, usually on the bank of a stream, and is constructed of grass-bents, rootlets, and moss, lined with fine roots, wool, or hair, and the eggs, which are usually deposited in April or May, 5 or 6 in number, are dull white closely marbled or freckled with pale yellowish brown, occasionally with a black streak or mark, and measure about 0·71 by 0·55.

Specimens from the Azores and Madeira are the most richly coloured, but do not specifically vary from the ordinary European form.

303. Yellow-headed Wagtail.

MOTACILLA CITREOLA.

Motacilla citreola, Pall. Reis. iii. App. p. 696, No. 14 (1776); Naum. xiii. p. 117, Taf. 377, figs. 2, 4; Gould, B. of E. pl. 144; Dresser, iii. p. 245, pl. 127; Sharpe, Cat. B. Br. Mus. x. p. 503; Oates, F. Brit. Ind. Birds, ii. p. 298.

♂ *ad.* (Yenesei). Head, neck, and under parts rich canary-yellow; upper parts dark slate-grey; a black collar on the hind neck; wings and

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tail black, the former with whitish margins, the outer tail-feathers nearly white; bill and legs black; iris dark brown. Culmen 0·65, wing 3·33, tail 3·2, tarsus 1·05, hind toe with claw 0·7 inch. The female has the crown and nape dull yellowish grey, tinged with brown, the back browner; no black collar; wings and tail duller; superciliary line, lores, throat, and under parts canary-yellow. The young bird has the crown nape and upper parts dull grey washed with yellowish brown, the under parts dull white tinged with primrose, forehead and supercilium yellowish white, and the lower throat tinged with yellow and marked with greyish brown. In the winter the male resembles the female above described but is darker above, the forehead is yellow, the supercilium broader, the lower breast and abdomen primrose-yellow, and there are a few black marks on the lower throat.

Hab. North-east Europe and Siberia as far east as Lake Baikal and the Ussuri; Central Asia; China; wintering in the plains of India.

In general habits it differs but little from its allies, but affects chiefly marshy, humid localities, and it is but seldom seen in company with other species of Wagtails. Nidification commences late in May or in June, and the nest, which is constructed of grass-bents usually, but not always, lined with hair and a feather or two, is placed on the ground, well hidden in the marsh grass or under a low bush, and the eggs, usually 5 or 6 in number, are deposited late in June, and resemble those of *M. flava*, but are rather more stone-buff in tinge, and measure about 0·75 by 0·60.

304. Hodgson's Yellow-headed Wagtail.

MOTACILLA CITREOLOIDES.

Motacilla citreoloides, (Hodgs.) in Gray's Zool. Misc. p. 83 (1844); Gould, B. of Asia, iv. pl. 64; Sharpe, Cat. B. Br. Mus. x, p. 507; Oates, F. Brit. Ind. Birds, ii. p. 299; *Budytes calcaratus*, Hodgs. fide Blyth, Ibis. 1865, p. 49.

Pani-ka-pilkya, Hindu.

♂ *ad.* (Turkestan). Differs from *M. citreola* in having in summer the back, scapulars, rump, and upper tail-coverts deep black; in the winter it resembles *M. citreola* more closely, but has the upper parts darker and intermixed with black. The young resemble those of *M. citreola* so closely that I cannot see how they can always be distinguished.

Hab. The Altai mountains, Turkestan, Afghanistan, Kashmir, wintering on the southern slopes of the Himalayas and the

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plains of India, ranging east from Assam down to northern Tenasserim and Pegu.

In habits it would appear not to differ from *M. citreola*. It has been found breeding in Kashmir in May, the nest being placed in a depression in soft earth beneath a rock, and the eggs, 4 in number, are pale grey marked with greyish brown and greyish neutral tint, and measure about 0·95 by 0·70.

305. Blue-headed Wagtail.

MOTACILLA FLAVA.

Motacilla flava, Linn. Syst. Nat. i. p. 331 (1766); Naum. iii. p. 839, Taf. 88; Hewitson i. p. 168, pl. xlii. fig. 2; Gould, B. of E. pl. 146; id. B. of Gt. Brit. iii. pl. 4; Newton, i. p. 558; Dresser, iii. p. 261, pl. 129, figs. 1, 2; Sharpe, Cat. B. Br. Mus. x. p. 516; Oates, F. Brit. Ind. Birds, ii. p. 295; Saunders, p. 127; Lilford, iii. p. 110, pl. 56.

Bergeronnette printanière, French; *Alvelôa amarella*, Portug.; *Pispita amarilla*, Span.; *Cutti*, Ital.; *Gelbe Bachstelze*, Germ.; *Gele Kwikstaart*, Dutch; *Gul Vipstjert*, Dan.; *Gulerle*, Norweg.; *Gulärla*, Swed.; *Fiskis-cicas*, Lapp.; *Kelta-Västäräkki*, Finn.; *Jeltaya Tresogushka*, Russ.

♂ *ad.* (Germany). Crown, nape, and sides of head ashy blue; upper parts deep greenish grey, greener on the rump; wings and tail dark brown, the former with yellowish or buffy white margins; outer tail-feathers nearly white; supercilium, a broad streak below the eye and chin white; rest of under parts rich canary-yellow; legs and bill black; iris brown. Culmen, 0·62, wing 3·3, tail 2·10 tarsus 1·0 inch. The female is paler and the head and nape are faintly tinged with olivaceous. In the autumn the yellow in the plumage is paler. The young bird has the crown and nape tinged with brown and the upper parts are greyish brown tinged with olivaceous, the under parts yellowish white and the breast and sides of the neck marked with blackish brown. In all plumages the white or whitish supercilium is present.

Hab. Europe as far north as Central Sweden, somewhat rare in Great Britain; Asia as far north as northern Siberia, ranging into N.W. America; wintering in Africa as far south as the Cape Colony, and in Asia as the Moluccas.

In its habits it has much in common with the common Yellow Wagtail, and frequents meadows, especially where cattle are

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grazing, marshy localities, and the vicinity of water. It is as a rule not shy, and moves about with the greatest ease and grace, catching insects on the wing as they rise from the grass with great adroitness. It feeds on insects of various kinds: gnats, small grasshoppers, caterpillars, &c. Its call-note is a clear piping note, often uttered, and in the spring the male utters a peculiar love-call resembling the syllables *zeer zeer*. The nest, which is placed on the ground, amongst the grass, in a hole, or in a bank, is constructed of grass-bents, fine roots, and moss, lined with finer bents, horsehair, or wool, occasionally also with a few feathers, and the eggs, which are usually deposited in June, in number from 4 to 6, are dirty white marbled and clouded with clay-brown or greyish or yellowish buff, and measure about 0·77 by 0·61. The amount of white on the cheeks varies considerably in individuals, and a variety having the cheeks white with only a broad slate-grey band passing through the eye has been separated specifically under the name of *Motacilla beema* Sykes (cf. Sharpe tom. cit. p. 521, pl. vi, fig. 6), but it appears to me to be undeserving of even sub-specific rank.

306. Grey-headed Wagtail.

MOTACILLA VIRIDIS.

Motacilla viridis, Gmel. Syst. Nat. i. p. 962 (1788); Newton, i. p. 560, footnote; Dresser, iii. p. 269, pl. 129, fig. 3; *M. cinereocapilla*, Savi. Nuov. Giorn. delle Lett. p. 190 (1831); Naum. xiii. pt. 2, p. 128, Taf. 373; Gould. B. of Gt. Brit. iii. pl. v; *M. borealis*, Sundev. Öfv. K. Vet. Akad. Förh, 1840, p. 53; Sharpe, Cat. B. Br. Mus. x. p. 522, pl. vii; Saunders, p. 128; Lilford, iii. p. 112, pl. 57.

Bergeronnette à tête cendrée, French; *Grauköpfige gelbe Bachstelze*, Germ.; *Strisciaiola capo-scuro*, Ital.; *Graahovedet Vipstjert*, Dan.; *Svarthufvad Gulärla*, Swed.

♂ *ad.* (N. Sweden). Differs from *M. flava* in having the lores, ear-coverts and region round the eye black, the head, and nape occasionally, blackish grey, and in some individuals there is a trace of a narrow white supercilium.

Hab. Northern Scandinavia, Russia, and Siberia, ranging further north than *M. flava*, wintering in Africa, India, Burma, and the Malay Peninsula. Is said to have occurred twice in Great Britain.

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In habits it does not differ from *Motacilla flava*, and its nest and eggs are similar, except that the latter are as a rule rather darker.

307. Black-headed Wagtail.

MOTACILLA MELANOCEPHALA.

Motacilla melanocephala, Licht. Verz. Doubl. p. 36 (1823); Naum. xiii. pt. 2. p. 125, Taf. 374; Dresser, iii. p. 273, pl. 160; *M. feldeggi*, Michah. Isis. 1830, p. 814; Sharpe, Cat. B. Br. Mus. x. p. 527, pl. viii. figs. 1–5; *M. paradoxa*, Brehm. Vogelf. p. 142 (1855); Sharpe, tom. cit. p. 531.

Cutti-capo-nero, Ital.

♂ *ad.* (Asia Minor). Differs from *M. flava* in having the crown, nape, and sides of head deep glossy black, the back deeper green, and the under parts, including the chin and throat deeper yellow. Culmen 0·55, wing 3·2, tail 2·9, tarsus 1·0 inch.

Hab. South-eastern Europe; Central Asia, Persia, wintering in Africa and India.

In general habits it does not differ from *M. flava*, but is said to affect the vicinity of salt water. Its nest and eggs resemble also those of *M. flava*, but the eggs are rather darker and browner in tinge of colour.

Some specimens have a faint white supercilium, and these have been separated under the name *M. paradoxa* (Brehm) (cf. Sharpe tom. cit. p. 531, pl. viii, fig. 5), but after an examination of a large series of specimens I cannot concur in this view.

308. Subsp. Motacilla xanthophrys.

Motacilla xanthophrys, Sharpe, Cat. B. Br. Mus. x. p. 532, pl. viii. fig. 6; Dresser, ix. 147, pl. 664.

♂ *ad.* Differs from *M. melanocephala* in having a clearly defined bright yellow supercilium.

Hab. The shores of the Black Sea to Persia.

In habits it does not differ from *M. melanocephala*, and its nest and eggs doubtless resemble those of that species, but are as yet unknown.

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309. Yellow Wagtail.

MOTACILLA RAII.

Motacilla raii, Bp. Comp. List, p. 18 (1838); Gould, B. of Gt. Brit. iii. pl. 3; Hewitson, i. p. 170, pl. xlii. fig. 3; Newton, i. p. 564; Dresser, iii. p. 277, pl. 131; Saunders, p. 129; Lilford, iii. p. 114, pl. 58; *M. campestris*, (nec. Pall.) Keys and Blas. Wirbelth, Eur. p. xlix (1840); Naum. xiii. pt. 2, p. 130, Taf, 372; Sharpe, Cat. B. Br. Mus. x. p. 510, pt. vi. figs. 1, 2.

♂ *ad.* (England). Upper parts olive-green becoming yellowish green on the crown and forehead; a broad yellow stripe over the eye, and another below the eye; sides of head otherwise olive-green; wings and tail as in *M. flava*, chin, throat, and under parts rich yellow; bill and feet blackish; iris brown. Culmen 0·6, wing 3·25, tail 3·0, tarsus 1·0, hind-toe with claw 0·68 inch. Occasionally an old male has the head entirely yellow. The female is duller and paler than the male. The young bird has the upper parts brownish olive, greener on the rump, under parts buffy white tinged with sulphur, the lower throat and breast washed with brownish buff, the superciliary stripe buffy white, and the margins to the wings and tail are broader and tinged with buff.

Hab. Great Britain, breeding in England and Scotland, but rare in Ireland; Northern France, and has been recorded as having strayed to Norway, South Russia, Central and Southern Europe on passage; wintering in Africa. In Asia it ranges as far east as Turkestan.

In habits it does not appreciably differ from *M. flava*, and, like that species, is most frequently seen in grass-land where cattle are pasturing, and feeds on insects and their larvæ. It not unfrequently perches on a twig or branch of a tree as well as on the ground. Its nest is placed on the ground usually well concealed in the grass or under a clod or tussock, and is constructed of grass-bents, rootlets, and occasionally moss, lined with finer bents and rootlets, or else with hair or wool. The eggs, from 4 to 6 in number, are usually deposited in May or June, and a second brood is often raised in the same season. The eggs are undistinguishable from those of *M. flava*.

310. Eastern Yellow Wagtail.

MOTACILLA TAIVANA.

Motacilla taivana, (Swinhoe), P.Z.S, 1863, p. 334; Sharpe, Cat. B. Br. Mus. x. p. 514; Tacz. F. O. Sib. O. p. 385.

♂ *ad.* (China). Upper parts including the crown greenish olivaceous; supercilium yellow; lores black; ear-coverts blackish olivaceous; under

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parts with throat and cheeks rich yellow, the sides of the breast and flanks olive-green, and the neck with dusky greenish spots; bill and legs black; iris dark brown. Culmen 0·55, wing 3·5, tail 2·9, tarsus 1·0 inch.

Hab. Eastern Siberia, Dauria, the Kurile Islands, China, and Formosa, wintering in the Malay peninsula.

In habits it is said to resemble *M. raii*, and, like that species, is usually seen near water. It breeds in the island of Saghalien, where it is common; but so far as I know there are no particulars published relative to its nidification.

311. White-headed Wagtail.

MOTACILLA LEUCOCEPHALA.

Motacilla leucocephala, (Prjev.) Nov. vid. ptitz. Centr. Asie, Zap. Imp. Akad. Nayk. lv. p. 85 (1887); Pleske, Prjevalsky's Reisen, Vögel, p. 186, Taf. x. figs. 3, 4.

♂ *ad.* Head, chin, and cheeks white; hinder part of head and nape smoke-grey; upper parts yellowish olivaceous; throat, breast, and under parts citron-yellow; two pale bands across the wings. Culmen 0·6, wing 3·25, tail 2·92, tarsus 1·0 inch. The female has the upper parts smoke-grey, the back tinged with brown and the rump with olive-green; supercilium, cheeks, chin, and throat pure white; rest of under parts white washed with yellowish.

Hab. Dzungaria.

Nothing is known of this Wagtail beyond that Prjevalsky met with it on the spring passage on the Urungu river and in the Southern Altai, where it was in small parties of 5 to 10 individuals. In August he again met with it on the Tosso-nor in Tsaidam.

LIMONODROMUS, Gould, 1862.

312. Forest Wagtail.

LIMONODROMUS INDICUS.

Limonidromus indicus, (Gmel.) Syst. Nat. i. p. 962 (1788); Gould, B. of Asia, iv. pl. 67; Sharpe, Cat. B. Br. Mus. x. p. 532; Oates, F. Brit. Ind. Birds, ii. 300.

Uzhalla-jitta, Tel.

♂ *ad.* (India). Upper parts dull olive-green, under parts with chin throat, cheeks, and supercilium yellowish white; tail-coverts blackish brown; wings with two yellowish white bands across the coverts; quills with a patch of yellowish white at base of outer web; central rectrices olive-green, the outer nearly all white, the rest blackish brown; two black bands across the breast, the lower broken in the middle, bill

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dusky brown above, fleshy white below; legs purplish white; iris nearly black. Culmen 0·55, wing 3·1, tail 2·7, tarsus 0·85 inch. Female similar, and winter dress not differing.

Hab. Eastern Siberia and North China, wintering in Eastern India, Ceylon, the Andamans, Southern China, Burma, Cochin China, Java, Sumatra, and Borneo.

In general habits it greatly resembles the true Wagtails, but frequents forest land and more often perches on the branches of trees. It breeds in the Ussuri country, N. China, and Corea, placing its nest on the branch of a tree far from the trunk; but, so far as I can ascertain, its eggs are as yet undescribed.

ANTHUS, Bechstein, 1805.

313. Titlark.

ANTHUS PRATENSIS.

Anthus pratensis, (Linn.) Syst. Nat. i. p. 287 (1766); Naum. iii. p. 774, Taf. 84, fig. 3; Hewitson, i, p. 173, pl. xliv. figs. 1, 2; Gould, B. of E. ii. pl. 136; id. B. of Gt. Brit. iii. pl. 13; Newton, i. p. 575; Dresser, iii. p. 285, pl. 132, fig. 1; Sharpe, Cat. B. Br. Mus. x. p. 580; Saunders, p. 133; Lilford, iii, p. 118, pl. 60.

Pipit des Prés, French; *Petinha*, Portug.; *Cinceta*, Span.; *Pispola*, Ital.; *Pieplerche*, German; *Graspieper*, Dutch; *Pibelærke*, Dan.; *Grátitlingr*, Icel.; *Engpiplærka*, Norweg.; *Ängpiplärka*, Swed.; *Cici-cicas* Lapp.; *Heinä-kirvinen*, Finn.; *Lugovoi-konek*, Russ.

♂ *ad.* (England). Upper parts blackish brown the feathers margined with olivaceous hair-brown; rump almost uniform olivaceous brown; under parts white, the sides of the neck, breast, and flanks profusely spotted with blackish brown, the breast washed with buff; wings dark brown, the feathers margined with dull white and greenish olivaceous; tail dark brown, the outer feather white except an oblique broad patch along the inner web, the next with a triangular white patch at the end of the inner web, the next three with a narrow pale external margin; bill dark brown paler at the base of lower mandible; legs light brown; iris hazel; hind claw slender, slightly curved, and as long as the toe. Culmen 0.6, wing 3·0, tail 2·25, tarsus 0·85 inch. The female does not differ from the male. In the winter the upper parts are browner and the under parts tinged with dull yellowish buff. The young bird has the upper parts more boldly marked and the breast and flanks washed with dull reddish buff.

Hab. Europe generally, ranging east to western Siberia and Turkestan, wintering in Northern Africa; a common summer visitor to Iceland, but a rare straggler to Greenland.

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Frequents open places, pastures, moors, and downs, in both dry and damp localities; it is essentially a ground bird, and but seldom perches on a tree or bush, and roosts on the ground. Its call-note is shrill and sharp, and its song, which is uttered on the wing is sweet, simple but not powerful, and may be heard from April to the end of July. It breeds tolerably early, depositing its eggs in April or May, and a second brood is usually raised in the same season. The nest is placed on the ground, is neatly constructed of grass-bents, rootlets, &c., and lined with finer bents and rootlets, or with horsehair. The eggs, 4 to 6 in number, are dull light grey, closely marked with dusky brown, reddish brown, or purplish grey, averaging in size about 0·76 by 0·58, and are subject to considerable variation.

314. Canarian Pipit.

ANTHUS BERTHELOTI.

Anthus bertheloti, Bolle, J.f.O. 1862, p. 357; Dresser, iii. p. 291, pl. 133; Sharpe, Cat. B. Br. Mus. x. p. 591.

Caminero, Pajaro-cajon, Span.

♂ *ad.* (Teneriffe). Differs from *A. pratensis* in having the upper parts paler, more uniform in colour, and tinged with grey, the markings on the neck, breast, and flanks being dull brown narrow striations; legs very pale brown. Culmen 0·65, wing 2·95, tail 2·5, tarsus 0·87, hind toe with claw 0·7 inch. The female resembles the male. The young bird has the feathers on the upper parts margined with rufous, and the legs pale, almost white.

Hab. Madeira and the Canary Islands.

Frequents open sandy, volcanic, or grassy places, and is often seen on the roads; in general habits it resembles *A. pratensis*, and feeds on insects and seeds. It has no real song, but only a soft plaintive call-note. It places its nest, which is constructed of grass-bents and fine rootlets, on the ground, and deposits from 4 to 6 eggs, which are closely spotted with greyish brown on a dull white ground and resemble pale varieties of the eggs of *A. pratensis*.

315. Tree-Pipit.

ANTHUS TRIVIALIS.

Anthus trivialis, (Linn.) Syst. Nat. i. p. 288 (1766); Newton, i. p. 569; Dresser, iii. p. 309, pl. 132, fig. 2; Sharpe, Cat. B. Br. Mus. x. p. 543; Saunders, p. 131; *A. arboreus*, Bechst. Naum. iii. p. 758, Taf. 84, fig. 2; Hewitson, i. p. 171, pl. xliii; Gould, B. of E. iii. pl. 139; id. B. of Gt. Brit. iii. pl. 14; Lilford, iii. p. 115, pl. 59.

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Pipit des arbres, French; *Sombria*, Portug.; *Cinceta*, Span.; *Prispolona*, Ital.; *Baumpieper*, German; *Boompieper*, Dutch; *Trœpiber*, Dan.; *Trœpiplærke*, Norweg.; *Trädpiplärka*, Swed.; *Metsä-kirvinen*, Finn.; *Lasnoi-konek*, Russ.

♂ *ad.* (England). Differs from *A. pratensis* in having the hind claw much shorter and more curved, and in having the under parts more buff in tinge, besides being larger and having paler legs; bill dark brown paler below; legs pale flesh colour; iris dark brown. Culmen 0·6, wing 3·42, tail 2·7, tarsus 0·9, hind toe with claw 0·68, hind claw 0·3 inch.

Hab. Northern and central Europe; northern Asia as far east as Krasnoyarsk, wintering in southern Europe, Africa, and western Asia.

In habits it differs from *A. pratensis* in frequenting woods, groves, and gardens in preference to open grassy localities, and is never seen far from trees and bushes, and perches freely on trees. Its call-note is loud and clear, though somewhat harsh, and its song is loud, rich, and full, somewhat resembling that of the Canary-bird. It is uttered when the bird is perched on a tree, or is circling on the wing, and never from on the ground. Its food consists chiefly, indeed almost solely, of insects and their larvæ. Its nest is placed on the ground, usually in a wood or the border of a copse, well concealed amongst the grass, and is constructed of dried grass and moss, lined with finer grasses, and the eggs, from 4 to 5 or even 6 in number, vary considerably both in colour and markings, some being so closely marked with dark red spots on a greyish ground, as to appear almost uniform dark red, others are, on a purplish white ground, either marked with dark hair-brown, or blotched with a few large purplish brown patches, and others again are marbled and spotted with rich red on a reddish white ground. In size they average about 0·80 by 0·65. Two broods are usually raised in the season, the first eggs being deposited in May.

316. Subsp. Anthus maculatus.

Anthus maculatus Hodgs. in Gray's Zool. Misc. p. 83 (1844); Sharpe, Cat. B. Br. Mus. x. p. 547; Oates, F. Brit. Ind. Birds. ii. p. 304; *A. agilis* (nec. Sykes), Jerdon, B. of Ind. ii. p. 229; Gould, B. of Asia, iv. pl. 65.

♂ *ad.* (India). Differs from *A. trivialis* in being smaller, in having the upper parts strongly tinged with green, the streaks and middle of the feathers narrower and less defined; supercilium pale fulvous anteriorly and white posteriorly. Culmen 0·55, wing 3·3, tail 2·55, tarsus 0·85 inch.

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Hab. Siberia east of the Yenesei, Japan, North China, and the Himalayas, wintering in Cochin China, Burma, and the plains of India.

In habits it resembles *A. trivialis*, frequenting wooded localities and flying up into a tree when disturbed. It breeds in May and June, placing its nest on the ground, and constructing it of grass-bents or moss, lined with fine bents or rootlets. The eggs, usually four in number, are thickly marked with dark brown and dingy purple on a greyish ground, and measure about 0·93 by 0·68.

317. Red-throated Pipit.

ANTHUS CERVINUS.

Anthus cervinus (Pall.) Zoogr. Ross. As. i. p. 511 (1811); Naum. iii. Taf. 85, fig. 1; Dresser, iii. p. 299, pl. 135, 136; Sharpe, Cat. B. Br. Mus. x. p. 585; Oates, F. Brit. Ind. Birds, ii. p. 310; Saunders, p. 135; Lilford, iii, p. 120, pl. 61; *A. rufogularis*, Brehm. Vög. Deutschl. p. 340 (1831); Gould, B. of E. ii. pl. 140.

Rothkehlige Pieper, German; *Pispola gola rossa*, Ital.; *Brunstrubet-Piplaerke*, Norweg.; *Rödstrupig Piplärka*, Swed.; *Pellrakirvinen, Tunturi-kirvinen*, Finn.

♂ *ad.* (N. Sweden). Upper parts wings and tail as in *A. pratensis* but the upper parts are somewhat browner and the markings clearer; lores, supercilium, throat, breast, and to some extent the sides of the neck pinkish fawn; rest of the under parts yellowish buff, the breast here and there spotted with blackish brown; bill dark brown; legs fleshy brown; iris brown. Culmen 0·6, wing 3·2, tail 2·4, tarsus 0·9 inch. The female has the rufous generally restricted to the throat. The winter, and immature plumage closely resembles that of *A. pratensis* except that the under parts are more boldly spotted, and in old specimens there are remains of the rufous coloration in the winter dress.

Hab. Arctic Europe and Asia, as far east as Kamchatka, rare on migration in western Europe; of doubtful occurrence in Britain; wintering in northern Africa, eastern India, Burma and China, and at least as far south as Borneo. Of occasional occurrence in Alaska, and accidental in lower California.

Frequents moors and marshes, usually where there are bushes scattered about, and is frequently to be seen on the seashore. Its call-note is lower and softer than that of the Meadow-Pipit, and its song fuller and louder. It breeds usually in June, the

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nest being placed on the ground well concealed in the grass or under shelter of a bush, and constructed of dry grass-bents without lining or occasionally with a horsehair or two in the cup. The eggs vary considerably, some having the ground colour greenish grey, others brown, some are rich reddish brown, the colour of old mahogany, others dull brown, and others again greenish grey, closely spotted with brown, and I have seen some with large brown scratches like those on the eggs of the Lapland Bunting. In size they average about 0·75 by 0·58.

318. Water-Pipit.

ANTHUS SPIPOLETTA.

Anthus spipoletta, (Linn.) Syst. Nat. i. p. 288 (1766); Gould, B. of Gt. Brit. iii. pl. 11; Dresser, iii. p. 335, pl. 140; Oates, F. Brit. Ind. Birds, ii. p. 312; *A. spipoletta*, Newton, i. p. 589; Sharpe, Cat. B. Br. Mus. x. p. 592; Saunders, p. 141; Lilford, iii. p. 121, pl. 62; *A. aquaticus*, Bechst. Gemein. Naturg. Deutschl. iii. p. 745 (1807); Naum. iii. p. 789, pl. 85, figs. 2, 3, 4; Gould, B. of E. ii. pl. 138.

Pipit spioncelle, French; *Spioncello*, Ital.; *Wasserpieper*, German; *Vodyanaya-Shevresha*, Russ.

♂ *ad.* (Germany). Upper parts olivaceous brown tinged with grey, the rump more olivaceous; wings dark brown with paler margins to the coverts and secondaries; outer tail-feathers white obliquely on the terminal third, the second and third tipped with white, rest of the tail brown; supercilium yellowish buff; lores and sides of face greyish olivaceous; chin pale buffy white; throat, breast, and under parts generally pale rosy ferruginous; centre of abdomen and under tail-coverts dull white washed with pale ferruginous; under wing-coverts and axillaries greyish white; bill and legs blackish brown; iris dark brown. Culmen 0·7, wing 3·55, tail 2·8, tarsus 1·0 inch. Sexes alike. In the winter plumage the under parts are white, marked on the breast, sides of neck, and flanks with dull brown blurred spots and dashes.

Hab. Central and southern Europe, of rare or accidental occurrence in Great Britain, ranging across Asia to China, wintering in north Africa, north-west India, and China.

Frequents during the summer rocky desolate localities in the mountains near water, descending to the lowlands in the autumn. In its general habits it resembles the Meadow-Pipit, and its song resembles that of that bird, but is deeper in tone and harsher. It commences nidification in April or May, and two broods are usually raised in the season. The nest is placed on the ground, either amongst the herbage or amongst stones,

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and is constructed of grass-bents, fine roots, and moss, lined with fine roots, horsehair, or a little wool, and the eggs 4 or 5 in number, are greyish white, finely spotted and marked with hair-brown or reddish brown, in size averaging about 0·82 by 0·60. In India and eastern Asia the Water-Pipits are smaller than the European bird, and have on that account been described as specifically distinct under the names *A. blakistoni* (Swinhoe, P. Z. S., 1863, p. 90), and *A. neglectus* (Brooks, Ibis 1876, p. 501). *Anthus pennsylvanicus*, Lath., so nearly resembles the present species, that it has, in error, been included as a European bird.

319. Hodgson's Pipit.

ANTHUS ROSACEUS.

Anthus rosaceus, Hodgs. in Gray's Zool. Misc. p. 83 (1844); Sharpe, Cat. B. Br. Mus. x. p. 589; Oates, F. Brit. Ind. Birds, ii. p. 311.

♂ *ad.* (Himalayas). Resembles *A. spipoletta* differing only in being as a rule rather smaller and in having the axillaries and under wing-coverts sulphur-yellow; bill dusky, blackish on culmen and fleshy brown at base of lower mandible; iris dark brown; feet brownish fleshy; claws dusky. Culmen 0·5, wing 3·45, tail 2·4, tarsus 0·85 inch.

Hab. Afghanistan and the Himalayas to western China, wintering in the plains of India.

In habits it appears to resemble *A. spipoletta*, and its nest, which has been found in Nepal in May was placed on the ground in a tuft of grass and contained two eggs, and it has been found breeding in Darjeeling. The eggs are said to resemble those of *A. spipoletta* in size and coloration.

320. Subsp. Anthus japonicus.

Anthus japonicus, Temm. and Schlegel, Faun. Jap. Aves. p. 59, pl. 24, (1850); Sharpe, Cat. B. Br. Mus. x. p. 598.

Ad. Differs from *A. spipoletta* merely in having the upper parts rather more olivaceous in tinge and the under parts honey-buff and more boldly spotted. Culmen 0·55, wing 3·35, tail 2·6, tarsus 0·9 inch.

Hab. Kamchatka, Dauria, and the Ussuri country, wintering in Japan and China.

In habits it does not differ from *A. spipoletta*, and like that species frequents the coasts, and bush-covered plains. It has has been found breeding in Kamchatka. It is a somewhat doubtful species differing so little from *A. spipoletta* and the American Pipit *Anthus pennsylvanicus*.

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321. Rock-Pipit.

ANTHUS OBSCURUS.

Anthus obscurus, (Lath.) Ind. Orn. ii. p. 494 (1790); Gould, B. of Gt. Brit. iii. pl. 10; Newton, i. p. 586; Dresser, iii. p. 343, pl. 141; Sharpe, Cat. B. Br. Mus. x. p. 599; Saunders, p. 143; Lilford, iii. p. 126, pls. 63, 64; *A. rupestris*, Nilss. Orn. Suec. i. p. 245, pl. 9, figs. 1, 2; Naum. xiii. p. 108, pl. 371, figs. 1, 2; *A. aquaticus*, (nec. Bechst.); Hewitson, i. p. 174, xliv. fig. 3.

Pipit obscur, French; *Spioncello marino*, Ital.; *Strandpieper*, German; *Skjaer-piplærke*, Norweg.; *Skjærpiber*, Dan.; *Skärpiplärka*, Swed.; *Luoto-kirvinen*, Finn.

♂ *ad.* (England). Upper parts olivaceous obscurely streaked with dark brown; rump brighter olivaceous very slightly streaked; wings and tail brown, the former margined with olivaceous, the outer tail-feathers with a broad oblique smoke-grey terminal band; an indistinct supercilium yellowish buff; under parts yellowish buff obscurely streaked with dark brown or olive-brown; bill dark brown, tinged with dull orange at the base of lower mandible; legs reddish brown; iris brown. Culmen 0·78, wing 3·5, tail 2·65, tarsus 0·95, hind toe with claw 0·75 inch. Sexes alike. In the winter the plumage is paler, the under parts much paler and less streaked, the centre of the throat almost unmarked. The young bird is darker, more clearly streaked above and more boldly marked below.

Hab. Northern Europe from the coasts of France east to the White Sea, north to northern Scandinavia, south into Spain, and has occurred in Morocco in the winter; resident in Great Britain.

Essentially a shore bird it frequents the barren rocky parts of the coast, never straying far inland. It feeds on marine insects and their larvæ, small molluscs, and seeds. Its song is tolerably pleasing, but short, and is uttered whilst the bird is on the wing. It breeds in April or May, and places its nest on the ground under a stone or ledge in a cliff, or amongst moss, constructing it of grass-bents, and sometimes seaweeds, lining it with finer bents or a little horsehair. The eggs, 4 or 5 in number, are grey with an olivaceous tinge in ground colour, closely marked with dark reddish brown or olivaceous brown, in size averaging about 0·82 by 0·65.

On the Norwegian and Swedish coasts a variety or form of

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this species occurs, which has the breast dull vinous in tinge, which may almost be considered as a sub-speeies, and this form *A. rupestris* (Nilss. Orn. Suec., i. p. 245) has occurred on passage in Great Britain, and been mistaken for *A. spipoletta*, from which it can readily be distinguished, in having the band on the outer tail-feathers smoke-grey and not white.

322. Petchora Pipit.

ANTHUS GUSTAVI.

Anthus gustavi, Swinhoe, P.Z.S. 1863, p. 90; Sharpe, Cat. B. Br. Mus. x. p. 613; Tacz. F. O. Sib. O. p. 398; *A. seebohmi*, Dresser, iii. p. 295, pl. 134.

♂ *ad.* (Petchora). Upper parts warm buffy brown richly streaked with black and white; under parts as in *A. trivialis*; the pale portion of the rectrices smoke-buff, not white; wings as in *A. trivialis* but the ground colour much blacker; bill horn-brown lighter at the base of the lower mandible; legs pale brown; iris dark brown. Culmen 0·6, wing 3·3, tail 2·25, tarsus 0·95, hind toe with claw 0·85, hind claw 0·44 inch. Sexes alike. In winter plumage the upper parts are more olivaceous, the white stripes are more distinct and the under parts are washed with buff. The young bird has the plumage softer, the breast is more thickly spotted, the black spots extending up the greater part of the throat leaving the chin white.

Hab. The Petchora river in north-east Russia, eastward across Siberia to Kamchatka and the Commander Islands, passing through China, and wintering in the Philippines, Moluccas, Borneo, Timor, and Celebes.

In habits it resembles the Meadow-Pipit, but frequents marshy localities, and often perches on the branches of trees. Its song consists of a Lark-like *trilla*, and a low guttural warble, and is uttered when the bird is high in the air like a Lark. It feeds almost entirely on insects. It breeds in June and July, the nest, which is placed on the ground and well concealed, being constructed of flat-leaved grass, water-plants, and small leaves. Usually the nest is placed in swampy localities among the dwarf willows. The eggs, 4 to 5 in number, are dull greyish, very closely spotted with brown and dark grey, the ground colour being almost obscured, and measure from 0·80 by 0·58 to 0·98 by 0·65.

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323. Tawny Pipit.

ANTHUS CAMPESTRIS.

Anthus campestris, (Linn. Syst. Nat. i. p. 288 (1766); Naum. iii. p. 745, Taf. 84, fig. 1; Gould, B. of Gt. Brit. iii. pl. 9; Newton, i. p. 592; Dresser, iii. p. 317, pl. 137; Sharpe, Cat. B. Br. Mus. x. p. 569; Saunders, p. 137; Lilford, iii. p. 127, pl. 65.

Pipit roussoline, French; *Petinha*, Portug.; *Calandrina*, Span.; *Calandro*, Ital.; *Brachpieper*, German; *Duinpieper*, Dutch; *Markpiber*, Dan.; *Fältpiplärka*, Swed.; *Kangas-kirvinen* Finn.; *Stepnaya-chevreska*, Russ.; *Chillu*, Hindu.

♂ *ad.* (Portugal). Upper parts ochreous sandy brown tinged with grey, indistinctly striped with dark brown; rump paler and less marked but the upper tail-coverts more distinctly striped; wings and tail blackish brown the former margined with ochreous buff, middle tail-feathers margined with tawny ochre and the two outer ones yellowish white, on the inner web bordered with blackish brown; supercilium and sides of face yellowish white the latter marked with dull brown; lores dark brown, the throat, breast, and under parts rich isabelline, washed with rufous and indistinctly spotted with pale brown on the breast; bill blackish brown above, dull yellowish at the base below; legs yellowish brown; iris dark brown. Culmen 0·7, wing 3·75, tail 3·2, tarsus 1·0, hind toe with claw 0·7 inch. Sexes alike.

Hab. Europe, rare as far north as Great Britain and Scandinavia; western Siberia, Afghanistan, and Turkestan, wintering in northern Africa, and the plains of north-west India.

Frequents sterile, sandy plains, and also to some extent, cultivated ground, and is restless and uneasy in its habits, and runs with ease like a Lark, moving its tail slightly when halting, somewhat after the manner of a Wagtail. Its call-note is monotonous, resembling the syllables *zer-vee*, and its song, which is weak and poor, is uttered whilst it is on the wing. Its food consists of insects of various kinds, very seldom of seeds. It breeds late in May, its nest being placed on the ground and constructed of dry grass-bents and rootlets, lined with fine roots or horsehair. The eggs, 5 to 6 in number, are blue grey, marked with umber-brown or brownish grey, closely and minutely spotted with reddish brown. In size they average about 0·82 by 0·62.

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324. Richard's Pipit.

ANTHUS RICHARDI.

Anthus richardi, Vieill. Nouv. Dict. xxvi. p. 491 (1818); Naum. xiii. p. 94, Taf. 371, figs. 3, 4; Hewitson, i. p. 175, pl. xliv. fig. 4; Gould, B. of E. iii. pl. 35; id. B. of Gt. Brit. iii. pl. 8; Newton, i. p. 598; Dresser, iii. p. 325, pl. 138; Sharpe, Cat. B. Br. Mus. x. p. 564; Oates, F. Brit. Ind. Birds, ii. p. 307; Saunders, p. 139; Lilford, iii. p. 130, pl. 66.

Pipit-richard, French; *Churrica*, Span.; *Calandro forestiero*, Ital.; *Spornpieper*, German; *Groote-pieper*, Dutch.

♂ *ad.* (Belgium). Upper parts blackish brown the feathers broadly margined with reddish brown; rump and upper tail-coverts more uniform brown and duller; wings and tail blackish brown, the quills margined with pale buff and rufous, the coverts tipped with white and rufous; outer tail-feather nearly pure white, the next with the terminal part white, the middle feathers with rufous margins; supercilium whitish; under parts white, the throat, breast, and flanks washed with rufous buff, a line from the base of the bill and a band across the breast composed of blackish spots; bill and iris dark brown; legs light brown. Culmen 0·75, wing 3·7, tail 3·25, tarsus 1·2, hind toe with claw 1·25, hind claw 0·78 inch. Sexes alike. The young bird has the upper parts duller and paler, the under parts more profusely spotted, and all the wing-coverts and inner secondaries broadly margined with white.

Hab. Central, northern, and eastern Asia, occurring on passage in central, southern, and western Europe, rare in Scandinavia and Great Britain, wintering in India, Burma, China, and the Moluccas.

Frequents open bush-covered localities, both in the hills and on the plains, but is sometimes seen in the woods. It appears to prefer the vicinity of water, and occurs also in marshy places. It is generally seen on the ground, but also perches on bushes and plants. Its call-note is described as being a prolonged *tsi*, and its song, which is uttered whilst the bird is floating in the air like a Skylark, is feeble, short, and devoid of originality. It feeds on insects which it obtains on the ground. It breeds in Siberia from the Yenesei to Dauria and in central Asia, early in June, its nest being placed on the ground, like those of its congeners, and deposits 5 to 6 eggs yellowish white, pale yellowish olivaceous or rosy white, closely marked all over the surface of the egg with brown or brownish olivaceous, in size averaging about 0·89 by 0·65.

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325. Brown Rock-Pipit.

ANTHUS SIMILIS.

Anthus similis, (Jerdon), Madr. Journ. xi. p. 35 (1840); Dresser, ix. p. 151, pl. 665; Oates, F. Brit. Ind. Birds, ii. p. 306; *A. sordidus*, (nec. Rüpp.) Jerdon, B. of Ind. ii. p. 236; Blanf. E. Pers. ii. p. 237; *A. jerdoni*, (Finsch.) Trans. Z. Soc. vii. p. 241 (1870); Sharpe, Cat. B. Br. Mus. x. p. 562; *A. griseorufescens*, (Hume), Ibis. 1870, pp. 286, 400.

♂ *ad.* (India). Upper parts pale ashy brown the feathers with brown shaft-stripes and fulvous margins; wings and tail brown margined with fulvous, the outer rectrix with outer web and tip creamy rufous, the next tipped with creamy rufous; supercilium and under parts sandy buff, the chin nearly white, the breast with a few pale brown spots; bill dark brown above, flesh coloured below; legs yellowish flesh; iris dark brown. Culmen 0·78, wing 4·0, tail 3·55, tarsus 1·12 inch. Sexes alike. In the winter the plumage is darker, the under parts being warm fulvous buff.

Hab. Persia, Afghanistan, Baluchistan, and the Himalayas, east to the Sikhim Terai and Mughal Sarai, wintering in India as far south as Khandesh, Jálna, and Nágpur.

In general habits it resembles *A. richardi*, and its note resembles that of that species, but is louder and clearer. Its nest is roughly constructed of grass, and placed on the ground amongst grass or under a bush, and the eggs, usually 4 in number, are deposited from May to July, and are brownish or greyish white, marked with brown and purple, measuring from 0·82 by 0·62 to 0·87 by 0·65.

326. Blyth's Pipit.

ANTHUS STRIOLATUS.

Anthus striolatus, Blyth, J.A.S. Beng. xvi. p. 435 (1847); Legge, B. Ceylon, p. 628; Sharpe, Cat. B. Br. Mus. x. p. 568; Tacz. F. O. Sib. O. p. 401; Oates, F. Brit. Ind. Birds, ii. p. 308; Pleske, Prjevalsky's Reisen, ii. Vög. p. 191.

♂ *ad.* (India). Differs from *A. richardi* in being much smaller, having a shorter hind claw, and much less white on the penultimate tail-feathers. Culmen 0·6, wing 3·35, tail 3·0, tarsus 1·0, hind claw 0·5 inch.

Hab. Southern Dauria, Mongolia, and the Himalayas, wintering in India as far south as Ceylon and the Andaman Islands, as far east as Burma, and as far west as Sind.

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In habits it is said not to differ from Richard's Pipit. Its nest and eggs are as yet unknown.

It was described from Eastern Siberia as a new species (*A. godlewskii*, Bull. Soc. Zool. Fr., 1876. p. 128) by Taczanowski, who subsequently, however, ascertained that Siberian examples do not differ specifically from Blyth's *A. striolatus*, and have only the under parts somewhat less boldly striped.

ZOSTEROPS, Vig. and Horsf., 1827.

327. Japanese White-Eye.

ZOSTEROPS JAPONICA.

Zosterops japonica, Temm. and Schleg. Faun. Jap. Aves. p. 57, pl. 22 (1850); Gadow, Cat. B. Br. Mus. ix. p. 160; Seebohm, B. Jap. Emp. p. 168.

Mejiro, Japan.

♂ *ad.* (Japan). Upper parts grass-green; wings and tail dusky externally margined with grass-green; lores and forehead somewhat yellower than the back; a white ring round the eye, and a dusky spot in front of and below the eye; throat and fore neck sulphur-yellow; breast and flanks vinous brown; abdomen whitish, under tail-coverts yellow. Culmen 0·6, wing 2·32, tail 1·65, tarsus 0·7 inch. Sexes alike.

Hab. Japan.

Frequents woods, groves and gardens, and is found both in the hills and on the plains. In its general habits it is lively and active. Its nest is constructed of moss and lichens, lined with horse-hair, and is placed on a bush or low tree from 4 to 6 feet from the ground, and the eggs, which are deposited in April, May, and June, from 3 to 4 in number, are unspotted bluish white, measuring about 0·65 by 0·49.

328. Chinese White-Eye.

ZOSTEROPS ERYTHROPLEURA.

Zosterops erythropleura, Swinhoe, Ibis. 1863, pp. 204, 208; Gould, B. of Asia, ii. pl. 35; Gadow, Cat. B. Br. Mus. ix. p. 161; Tacz. F. O. Sib. O. p. 198; David and Oust. Ois. Chine. p. 85; Berezovski and Bianchi, Ptitz. Gan-su. &c. p. 125; *Z. chloronotus*, (nec. Vieill.) Schrenck, Reis. Amurl. i. pt. 2. p. 365.

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♂ *ad.* Differs from *Z. japonica* in having the sides of the neck and of the breast light blue-grey, the centre of same and the abdomen white, the flanks with a patch of chestnut; bill brown above, bluish below; legs blue-grey; iris hazel. Culmen 0·5, wing 2·35, tail 1·45, tarsus 0·6 inch. The female resembles the male but has the chestnut on the flanks paler.

Hab. Southern Amoorland, Northern China, Pekin; Moupin, and Kansu on passage, wintering probably in southern China.

It is generally found on trees amongst the branches and foliage on which it seeks its insect food. It does not appear to have any regular song, but utters a clear, somewhat long drawn call-note.

Siurus auricapillus and *Dendræca coronata*, two common American birds, are said to have occurred in North-eastern Siberia, and the latter has been once recorded from Heligoland.

PYCNONOTUS, Boie, 1826.

329. Dusky Bulbul.

PYCNONOTUS BARBATUS.

Pycnonotus barbatus, (Desf.) Mém de l' Acad. Roy. des Sciences, p. 500, pl. xiii (1787); Dresser, iii. p. 353, pl. 142; Sharpe, Cat. B. Br. Mus. vi. p. 146; *P. obscurus*, (Temm.) Man. d'Orn. iv. p. 608 (1840).

Najanero, Span.; *Bou-lág-lág*, Moor.

♂ *ad.* (Morocco). Upper parts dull brown, head darker, wings and tail dark brown; lores and space before the eye blackish; chin and upper throat dull dark brown; centre of abdomen crissum and under tail-coverts white; rest of underparts pale ashy brown; bill and legs black; iris dark brown. Culmen 0·7, wing 4·1, tail 4·2, tarsus 1·0 inch. Sexes alike and the immature plumage similar but a trifle duller.

Hab. Algeria, Morocco, and West Africa, from the Gambia to the Niger.

Frequents wooded and bush-covered localities, is not shy, and is extremely garrulous. Its flight is Jay-like, but not strong or rapid, and when flushed it does not fly far, but perches in some exposed situation. It feeds on insects, berries, and fruit,

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and is very partial to ripe oranges. Its song is a clear melodious whistle, resembling the syllables *Pwhit, Pwhit, Qŭiterā, Qŭiterā.* It breeds in May, June, and July, placing its nest, which resembles that of a Woodchat Shrike, on the branch of a fruit tree, and deposits 3 to 4 eggs, which are very thin-shelled, greyish white, marbled and spotted with red or reddish brown surface spots, and purplish grey shell-markings, in size averaging about 0·98 by 0·73.

330. Palestine Bulbul.

PYCNONOTUS XANTHOPYGUS.

Pycnonotus xanthopygus, (Hempr. and Ehr.) Symb. Phys. fol. *bb.* (1829); Shelley, B. of Egypt, p. 68; Dresser, iii. p. 357, pl. 143, fig. 1; Sharpe, Cat. B. Br. Mus. vi. p. 135.

♂ *ad.* (Palestine). Head and upper neck glossy black; upper parts dull ashy brown; wings and tail umber-brown; under parts dull white washed with pale ashy brown on the breast and flanks; vent and under tail-coverts brilliant yellow; bill and legs black; iris dark brown; edge of the eye-lids grey. Culmen 0·7, wing 3·7, tail 3·8, tarsus 0·9 inch. Sexes similar and the young bird does not differ except in having the plumage duller.

Hab. North-east Africa, Arabia, Syria Palestine, Cyprus, Rhodes, and the Cyclades.

In its skulking habits it resembles *P. barbatus*, but is not gregarious, being usually seen in pairs.

It frequents wooded lowlands and gardens, and is not found in the mountains. Its song is exceedingly rich, indeed but little less so than that of the Nightingale, but it lacks the two last notes of that bird's song. Its nest is small and neat, not unlike that of *Fringilla cœlebs*, and is placed in a small fork or side branch of a tree. The eggs, 3 to 4 in number, are deposited late in April or early in May, and are white, covered with purplish grey shell-markings, and clear chocolate crimson surface-spots, averaging in size about 0·91 by 0·69.

Pycnonotus capensis, a South African species, has been once recorded from Ireland, but there is no doubt that it has no claim to be included, even as a straggler, among European birds.

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331. White-eared Bulbul.

PYCNONOTUS LEUCOTIS.

Pycnonotus leucotis, (Gould), P.Z.S. 1836, p. 6; Jerdon, B. of Ind. ii. p. 91; Blanford..E. Pers. ii. p. 218; Sharpe, Cat. B. Br. Mus. vi. p. 136; Oates, F. Brit. Ind. Birds, i. p. 273.

Bhooroo, Sind.; *Kushandra*, Punjab.

♂ *ad.* (India). Upper parts and wings earth-brown, dorsal feathers with paler margins, ear-coverts and hind part of cheeks white, the head, otherwise and the lower throat black; tail brown at base, then black tipped with white; under parts whity brown, under tail-coverts rich yellow; bill and legs black; iris brown. Culmen 0·7, wing 3·65, tail 3·6, tarsus 0·9 inch. Sexes alike. The young bird is duller in colour, the the head is brown, not black, and the under tail-coverts are yellowish buff.

Hab. Persia to north-west India, ranging as far east as central India.

Like its congeners it inhabits open bush-covered localities, and does not differ from them in its general habits. It breeds from May to August, the nest being placed in a bush, and constructed of vegetable fibres and plant-stems, lined with fine grass roots. The eggs, usually 3 in number, occasionally 4, are white, much dotted with claret-red, and measure 0·91 by 0·64.

332. White-cheeked Bulbul.

PYCNONOTUS LEUCOGENYS.

Pycnonotus leucogenys, (Gray), in Hardw. Ill. Ind. Zool. ii. pl. 35, fig. 3 (1830); (Jerd.) B. of Ind. ii. p. 90; (Sharpe), Cat. B. Br. Mus. vi. p. 160; (Oates), F. Brit. Ind. Birds, i. p. 272.

Kandghara, Beng.; *Manglio-kur*, Lepch.; *Painju*, Chamba.

♂ *ad.* (India). Upper parts olive-brown, the hinder part and sides of neck barred with blackish, the centres of the feathers brown; wings brown margined with olivaceous; tail brown at the base, otherwise black, tipped, except the lower central feathers, with white; forehead and crest hair-brown, narrowly margined with greyish white; lores black; a white line from the nostrils above the forepart of the eye; ear-coverts and hind cheeks white with a small blackish brown spot behind; under parts pale brown, the abdomen whitish, the under tail-coverts sulphur-yellow; edge

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of the wing whitish; bill black; legs plumbeous; iris brown. Culmen 0·7, wing 3·5, tail 3·5, tarsus 0·8 inch.

Hab. Afghanistan, and the Himalayas from Murree to Bhutan.

In the summer it is found in the mountains at from 3,000 to 7,000 feet altitude, descending to the plains in the autumn. It breeds late in May or in June, and its nest is placed on a bush or in the fork of a low tree, and is constructed of dried plant-stalks and grasses, lined with fine grasses. The eggs, 3 to 4 in number, are purplish white speckled all over, but chiefly at the larger end, with purple brown and purplish grey spots and blotches, and average about 0·88 by 0.65.

333. Red-vented Bulbul.

PYCNONOTUS INTERMEDIUS.

Pycnonotus intermedius (Jerdon), B. of Ind. ii. p. 95 (1862); (Sharpe), Cat. B. Br. Mus. vi. p. 130; (Oates), F. Brit. Ind. Birds, i. p. 272.

♂ *ad.* (India). Head, throat, and hind-neck black; upper parts brown margined with grey; wings brown narrowly margined with whitish; upper tail-coverts dull whitish; tail brown at base, otherwise black and tipped with white; ear-coverts chocolate; upper breast and sides of neck blackish brown; lower breast and flanks ashy brown; under tail-coverts crimson; rest of under parts dull ashy white; bill and legs black; iris brown. Culmen 0·85, wing 4·0, tail 4·2, tarsus 1·0 inch.

Hab. Afghanistan, Kashmir, the lower ranges of the Himalayas from Naini-Tal, and Almora to Murree; North Punjab and North-West Provinces, and Oudh down to Allahabad and Chupra.

In general habits it does not appear to differ from its congeners. It breeds from April to July, the nest which is placed on a bush, being constructed of fine roots, plant-stems, and a few leaves, with cobwebs and silky seed-down on the outside, and lined with fine roots. The eggs, 3 to 4 in number, are deep pink, blotched with deep claret-red, and average about 0·87 by 0·62.

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HYPSIPETES, Vigors, 1831.

334. Brown-eared Bulbul.

HYPSIPETES AMAUROTIS.

Hypsipetes amaurotis (Temm.), Pl. Col. ii. pl. 497 (1820–39); (id. and Schlegel), Faun. Jap. Aves. p. 68, pl. xxxi B; David and Oust. Ois. Chine, p. 135; Sharpe, Cat. B. Br. Mus. vi. p. 42.

Hiyodori, Jap.

♂ *ad.* (Japan). Upper parts slate-grey, the head silvery grey, the lower back and rump washed with olive; wings brown margined with fulvous brown, the inner secondaries with grey; lesser wing-coverts slaty grey; tail brown, margined with grey; lores blackish; ear-coverts chestnut; cheeks and throat hoary grey tipped with whitish; neck and breast ashy brown spotted with white; sides of breast grey; flanks reddish brown spotted with white; lower abdomen dull white; under tail-coverts brown margined with white; bill black; legs purplish brown; iris dark hazel. Culmen 1·2, wing 5·2, tail 4·9, tarsus 0·9 inch. Sexes similar.

Hab. Japan, Corea, and Eastern China, breeding in Northern Japan, and in the mountains in Southern Japan, and wintering on the plains.

It does not differ in habits appreciably from the other Bulbuls. It breeds from early in May to the end of July, and places its nest in a low tree or a bush, constructing it of twigs, moss, and coarse roots, lining it with fine roots. The eggs, usually 4 in number, are said to be in size about equal to those of *Turdus merula*, but are pinkish white, with purplish grey underlying shell-markings and reddish brown surface-spots.

ORIOLUS, Linn., 1766.

335. Golden Oriole.

ORIOLUS GALBULA.

Oriolus galbula, Linn. Syst. Nat. i. p. 160 (1766); Naum. ii. p. 171, Taf. 61; Hewitson, i. p. 94. pl. xxvi. fig. 1; Gould, B. of E. ii. pl. 71; id. B. of Gt. Brit. ii. pl. 31; Newton, i. p. 233; Dresser, iii. p. 365, pl. 144; Sharpe, Cat. B. Br. Mus. iii. p. 191; Saunders, p. 145; Lilford, iii. p. 98. pl. 49.

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Loriot, French; *Papa-figos*, Portug.; *Oropendola*, Span.; *Rigogolo*, Ital.; *Pirol*, *Goldamsel*, German; *Wielewall*, Dutch; *Guldperol*, Dan.; *Sommargylling*, Swed.; *Kuhankeittäjä*, Finn.; *Ivolga*, Russ.

♂ *ad.* (Finland). Above and below rich golden yellow; lores black; wings jet black with narrow external margins and tips of sulphur-yellow; edge of wing and under wing-coverts rich yellow; tail jet black, the outer feathers broadly, the inner ones less terminated with yellow, the two central ones only tipped with that colour; bill dull reddish; legs plumbeous; iris blood-red. Culmen 0·95, wing 5·9, tail 3·6, tarsus 0·85 inch. The female is duller in colour, has the back and scapulars tinged with green, the under parts yellowish white striped with blackish brown, or in very old birds yellow like the male. The young bird has the upper parts greyish yellow washed with green, the under parts white tinged with yellow and clearly streaked with blackish brown.

Hab. Europe generally, a rare visitant to Great Britain; Asia Minor, Persia and Turkestan, ranging as far east as Sind and Dauria, where it is rare; wintering in Africa as far south as Damaraland and Natal.

In its general habits it is restless, shy, and unobtrusive, frequenting groves, wood, and gardens, usually keeping amongst the foliage high up in the trees. Its flight is rolling and heavy, but swift. Its alarm-note is a harsh *chrrr*, and it has a peculiar harsh, mewing call-note. Its song is a clear, loud whistle, resembling the syllables *huidleo, huitidleo, huidleo.* It feeds on insects, berries, and fruit of various kinds. It breeds late in May or early in June, building a neat basket-shaped nest of strips of bark, grass-bents, &c., lined with fine grass-bents, and placed in the small fork of a branch, to which it is carefully twisted and woven. The eggs, 4 to 5 in number, are glossy white, marked with a few pale purplish brown shell-blotches, and more or less spotted with deep reddish brown, in size averaging about 1·20 by 0·85.

336. Indian Oriole.

ORIOLUS KUNDOO.

Oriolus kundoo, Sykes, P.Z.S. 1832, p. 87; Jerdon, B. of Ind. ii. p. 107; Sharpe, Cat. B. Br. Mus. iii. p. 194; Oates, F. Brit. Ind. Birds, i. p. 504, Hend. and Hume. Lah. to Yark. p. 200, pl. xi.

Pilak, Hind.; *Vanga-pandu*, Tet.; *Pawseh*, Mahr.; *Pashnool*, Kashm.

♂ *ad.* (India). Differs from *O. galbula* only in having the black on the lores extending to a patch round and behind the eye, and having more

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yellow on the tail, the outermost feather being almost entirely yellow. Culmen 1·2, wing 5·6, tail 3·7, tarsus 0·95 inch.

Hab. Afghanistan, Turkestan, Kashmir, and the higher ranges of the Himalayas.

In its general habits, food, and nidification it does not differ from *O. galbula.*

337. Black-naped Oriole.

ORIOLUS INDICUS.

Oriolus indicus, Jerd. Ill. Ind. Orn. pl. 15 (1847); id. B. of Ind. ii. p. 109; Oates, F. Brit. Ind. Birds, i. p. 502; *O. diffusus*, Sharpe, Cat. B. Br. Mus. iii. p. 197 (1877); Beresovski and Bianchi, Ptitz. Gan-su. &c. p. 120 (1891).

♂ *ad.* (India). Differs from *O. kundoo* in having the lores, a streak through the eye joining a broad band across the nape deep black, and the inner secondaries have the whole outer web and part of the inner web yellow; bill pinky red; legs plumbeous; iris pink. Culmen 1·25, wing 6·0, tail 4·0, tarsus 1·0 inch. The female resembles the male, but has the back tinged with green. The young are yellowish green above with but little trace of the black nuchal band; below whitish with dark stripes.

Hab. Mongolia, Dauria, the Ussuri country, and China, wintering in India, Ceylon, Burma, and as far south as Penang.

In general habits it resembles *O. galbula*, but its song is said to be louder. It inhabits non-evergreen groves and woods, and larch-groves, and is very shy. It breeds in Dauria, the Ussuri country, and North China, its nest and eggs resembling those of *O. galbula.*

Dr. Sharpe states that *Dicrurus leucogenys* (Walden) occurs in Japan, but I can find no instance of its occurrence there or elsewhere in the Palæarctic area.

LANIUS, Linn., 1766.

338. Great Grey Shrike.

LANIUS EXCUBITOR.

Lanius excubitor, Linn. Syst. Nat. i. p. 135 (1766); Naum. ii. p. 7, Taf. 49; Hewitson, i. p. 69, pl. xx. fig. 1; Gould, B. of Gt.; Brit. ii. pl. 13; Newton, i. p. 199; Dresser, iii. p. 375, pl. 145; Gadow, Cat. B. Br. Mus. viii. p. 237; Saunders, p. 147; Lilford, ii. p. 70. pl. 32.

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Pie-grièche grise, French; *Averla maggiore*, Ital.; *Grauer Würger*, German; *Klaauwier*, Dutch; *Graa, Torniskade*, Dan.; *Varsler*, Norweg.; *Större Törnskata*, Swed.; *Isompi-Lepinkäinen*, Finn.; *Skirri, Mettähakki*, Lapp.; *Europaiski Sorokoput*, Russ.

♂ *ad.* Upper parts light blue-grey; a narrow line on the forehead and over the eye white; lores and a large patch below the eye, including the ear-coverts deep black; scapulars broadly and secondaries narrowly tipped with white; wings black with a double or occasionally a single white band; lesser coverts blue-grey; tail black the outer feathers almost altogether, and the others, the two centre excepted, broadly terminated with white; chin, throat, and under parts white; bill and legs blackish; iris brown. Culmen 0·7, wing 4·4, tail 4·0, tarsus 1·0 inch. The female has the under parts greyish with traces of indistinct transverse vermiculations, and the young are duller, the black portions are tinged with brown, the under parts are dirty greyish white, and the bill and legs brown.

Hab. Europe generally, ranging into western Asia.

Bold and fearless, it does not seek concealment, but may usually be seen perched on a bare bough or the top of a tree or bush, and is to be met with both in the hills and plains, in orchards, plantations, or fields where trees are scattered about. It feeds on large insects, lizards, frogs, mice, and small birds, and has a habit of fixing its prey, when secured, on a thorn or in a small tree-fork. Its call-note resembles the syllable *truü*, and its cry *shek, shek*. It is often made use of by falconers when trapping hawks, to give notice of the approach of a bird of prey. It breeds as far north as Lapland, and sometimes two broods are raised in the year. Its nest, which is placed in a large bush or in a tree, often in a fruit tree, is constructed of twigs, bents, and moss, lined with wool, feathers, or hair, and is large and bulky. The eggs, 4 to 6, and sometimes even 7 in number, are dull white, with purplish grey underlying shell-markings, and dull brown surface-spots and blotches, and in size average about 1·07 by 0·77.

As regards the supposed occurrence of *L. major* Pall., in Europe, I fully agree with Prof. Collett (Ibis, 1886, pp. 30—40) that the specimens obtained were only varieties of *L. excubitor*.

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339. White-winged Shrike.

LANIUS LEUCOPTERUS.

Lanius leucopterus, Severtz. Turk. Jevot. p. 67 (1873); Gadow. Cat. B. Br. Mus. viii. p. 242; Dresser, ix. p. 162, pl. 668, fig. 2; *L. prjewalskii*, Bogd. Sorokop. Russk. Faun. p. 147, pl. iii. fig. 2.

♂ *ad.* (Ferghana). Much paler in coloration than *L. excubitor*, with more white on the wing, some of the secondaries having the entire inner web white; rump and upper tail-coverts white, and the three outer tail-feathers nearly pure white. Culmen 0·9, wing 4·7, tail 4·75, tarsus 1·1 inch. The female resembles the male but is a trifle smaller.

Hab. Transcaspia and Turkestan, ranging north to Krasnoyarsk.

In habits it does not differ from *L. excubitor*, and its nest and eggs will be found to resemble those of that species. *L. homeyeri* Cab. (J. f. O., 1873, p. 75), is a form intermediate between the present species and *L. excubitor*, approaching rather nearer to the former than the latter.

340. Long-tailed Grey Shrike.

LANIUS SPHENOCERCUS.

Lanius sphenocercus, Cabanis, J.f.O., 1873, p. 76; David and Oust. Ois. Chine, p. 92, pl. 76; Bogd. Sorokop. Russk. Faun. p. 149; Gadow, Cat. B. Br. Mus. viii. p. 242; Tacz. F. O. Sib. O. p. 485.

Sorokoput klinochoostui, Russ.

♂ *ad.* Differs from *L. excubitor* in having more white on the wings, the upper tail-coverts grey like the back, the three outer tail-feathers white with a dark shaft, the fourth with but little black on it, and the tail considerably longer. Culmen 0·9, wing 4·85, tail 5·7, tarsus 1·35 inch.

Hab. South-eastern Siberia, Mongolia, Corea, and China.

In general habits does not differ from *Lanius excubitor*, and its nest and eggs, of which I cannot find any description, will doubtless be found to resemble those of that species.

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341. American Grey Shrike.

LANIUS BOREALIS.

Lanius borealis, Vieill., Ois. Am. p. 90, pl. i. (1807); Aud. B. Amer, iv. p. 130, pl. 236; Gadow, Cat. B. Br. Mus. viii. p. 240; Dresser, Ibis, 1892 p. 377; Ridgway, p. 466, *L. major*, Pall. Zoogr. Ross. As. i. p. 401 (1811); Tacz. F. O. Sib. O. p. 487; Gadow, Cat. B. Br. Mus. vii. p. 239.

♂ *ad.* (E. Siberia). Differs from *L. excubitor* in having as a rule less white on the wing, forming only one speculum, the under parts barred with narrow transverse vermiculations, and the grey is often tinged with brown.

Hab. Kamchatka, Siberia from the Yenesei to the Pacific; North America from California to the Atlantic coast, in winter south to the Potomac and Ohio valleys.

I do not find that this species occurs in Europe proper. The Siberian bird is often less brown in tinge than the American and Prof. Bogdanoff (Sorokop. Russk. Faun. p. 102) makes two subspecies *L. borealis sibiricus* and *L. borealis americanus*, but I cannot agree with him that there is any valid distinction between them, and his *L. borealis europæus* (Op. cit. p. 103) I consider to be merely a variety of *L. excubitor* having a single alar bar or speculum.

In general habits and in nidification the present species does not differ from *L. excubitor*, and its nest and eggs closely resemble those of that species.

Lanius seebohmi Gadow (Cat. B. Br. Mus, viii. p. 243) of which only the type from the valley of the Amoor is known, is a very doubtful species, differing from the present in having a narrow black frontal band, much less white on the tail, and the under parts dull white. It has also only one alar bar. Its measurements are, culmen 0·85, wing 4·8, tail 4·7, tarsus 1·15 inch.

342. Mongolian Grey Shrike.

LANIUS MOLLIS.

Lanius mollis, Eversm. Bull. Soc. Nat. Mosc. xxvi. p. 498 (1853); Bogdanoff, Sorokop. Russk. Faun. p. 97 (partim); Gadow, Cat. B. Br. Mus. viii. p. 241.

Ad. (Mongolia). Resembles tawny specimens of *L. borealis*, but has the upper and under tail-coverts sandy buff, and the rump fulvous; wing with a single alar bar. Culmen 0·9, wing 4·70, tail 4·65, tarsus 1·1 inch.

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Hab. Altai range, Mongolia, Nov. Ssaissan, Chami.

In habits it does not differ from *L. excubitor*, and I do not find anything on record respecting its nidification.

343. Subsp. Lanius funereus.

Lanius funereus, Menzbier, Ibis, 1894 p. 379; Dresser, ix. p. 157, pls. 667 and 668 fig. 1; *L. mollis*. Bogd. Sorokop. Russk. Faun. p. 97 (partim) pl. ii.

♂ *ad.* (Kashgaria). Differs from *L. mollis* in being darker, greyer, less tinged with buff, and has the larger upper tail-coverts marked with a distinct terminal black band. The young of the two species are not distinguishable both having the upper tail-coverts vermiculated with dull black. Culmen 1·06, wing 5·1, tail 5·0, tarsus 1·0 inch.

Hab. Turkestan, Kashgaria, the Irtisch river, and has occurred as far west as Archangel.

344. Pallid Shrike.

LANIUS ELEGANS.

Lanius elegans, Swains. Faun. Bor. Amer. ii. p. 122 (1831); Gadow, Cat. B. Br. Mus. viii. p. 251, pl. vii; Dresser, ix. p. 167; *L. dealbatus*, De Fil. Rev. and Mag. de Zool. 1853, p. 289; Gadow, tom. cit., p. 250, pl. vi; *L. assimilis*, A. and L. Brehm, J.f.O., 1854 p. 147; Bogd. Sorokop. Russk. Faun. p. 160; Gadow, tom. cit., p. 249; *L. hemileucurus*, Finsch. and Hartl. Vög. Ost. Afr. p. 239 (1870); Gadow, tom. cit., p. 249; *L. lahtora*, (part.), Dresser, iii. p. 381, pl. 146, (lower figure); Rey. J.f.O. 1896, Taf. vi. fig. 6. (eggs).

♂ *ad.* (N. Africa.). Upper parts pale blue-grey, under parts white; lesser wing-coverts entirely grey; alar patch rather large; a narrow frontal band, lores, and a broad patch passing through and behind the eye deep black, above narrowly margined with white; wings black, the secondaries with the inner webs chiefly white; outer tail-feather white, the next white with a black shaft line, the next two black broadly tipped with white, the two middle ones black with a narrow white tip; bill and legs blackish horn; iris brown. Culmen 0·8, wing 4·1, tail 4·4, tarsus 1·2 inch.

Hab. North Africa, Asia Minor, Transcaspia, Turkestan, Afghanistan, straying as far east as the Punjab.

In habits it does not differ from its near allies and inhabits open bush-covered localities, desert places, and the plains in preference to the hills. It feeds on insects, especially on

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beetles and locusts, occasionally on small mammals and birds. Its flight is laboured and it usually flies low, from bush to bush. Its call-note is loud and sharp and it is an excellent mimic. Its nest is placed on a bush or low tree, is constructed of fine twigs, plant-stems, and grass-bents, well lined with fine bents, wool, plant-cotton, and small rags, and the eggs 5 to 7 in number, are pale greenish yellow or dirty greyish white with underlying dull lilac shell-markings and liver-brown surface-spots and blotches, in size averaging about 1·0 by 0·75.

345. Indian Grey Shrike.

LANIUS LAHTORA.

Lanius lahtora (Sykes), P.Z.S. 1832, p. 86; Gray and Hardw. Ill. Ind. Zool. ii. pl. 32; Jerd. B. of Ind. i. p. 400; Gadow, Cat. B. Br. Mus. viii. p. 252; Dresser, iii. p. 381, partim; Oates, Faun. Brit. Ind. Birds, i. p. 459.

Dudiya latora, Hind.; *Kach-kacha-latora*, Beng.; *Chinka bellinchi*, Tel.

♂ *ad.* (India). Differs from *L. elegans* in having the lesser wing-coverts black, or black slightly tipped with grey and the black frontal band broad and well defined. Culmen 0·85, wing 4·2, tail 4·6, tarsus 1·2, inch.

Hab. Afghanistan; the plains of India from Sind to Western Bengal, and south to Belgaum.

In its general habits it does not differ from *L. elegans* and inhabits the plains, not ascending the hill ranges. It breeds from January to August, its nest and eggs not differing from those of *L. elegans*.

346. Grimm's Grey Shrike.

LANIUS GRIMMI.

Lanius grimmi, Bogd. Sorokop. Russk. Faun. p. 151. pl. iv. (1881); Dresser, ix. p. 153, pl. 666; Gadow, Cat. B. Br. Mus. viii. p. 250.

Ad. (Atrek). Upper parts pale isabelline grey, the rump tinged with rufous; lores, forehead, and a narrow line over the eye white; a post-ocular patch including the ear-coverts dull black; wings and tail much as in *L. elegans*, but the black duller and tinged with brown; under parts white washed with rosy isabelline; bill light horn, darker along the culmen and at the tip; legs brownish; iris brown. Culmen 0·75, wing 4·45, tail 4·5, tarsus 1·2 inch.

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Hab. Central Asia, from the Caspian east to Ordos and Alashan, not ranging as far south as India.

This, a desert form of *L. elegans*, does not differ from that species in general habits, but inhabits bush-covered, sandy, stony, and clayey deserts, feeding on insects and small birds and mammals, possibly also on lizards. It breeds from April to June placing its nest in bushes, constructing it of twigs, grass-bents, and lining it with wool. The eggs are greenish grey with light grey spots which are more numerous round the larger end.

347. Finsch's Grey Shrike.

LANIUS FALLAX.

Lanius fallax, Finsch, Trans. Zool. Soc. vii. p. 249, pl. xxv. (1872); Gadow, Cat. B. Br. Mus. viii. p. 247, pl. viii; Dresser, ix. p. 163; *L. uncinatus*, Sclater and Hartl., P.Z.S. 1881, p. 168.

Abou-seround, Booras, Arabic.

♂ *ad.* (Gennesareth). Differs from *L. elegans* in having the upper parts much darker grey; under parts white washed with grey, the white alar patch small, the inner webs of the secondaries chiefly blackish, the lesser wing-coverts black, slightly intermixed with grey; an indistinct white superciliary stripe; black frontal line very narrow or obsolete. Culmen 0·85, wing 4·25, tail 4·3, tarsus 1·25 inch.

Hab. Canary Islands, N. E. Africa, Palestine, Mesopotamia, Muscat, east to Afghanistan, Baluchistan, possibly to the Deccan.

In general habits it does not differ from *L. elegans*. It breeds in March or April, placing its nest on a bush. The nest is constructed chiefly of thorny twigs, grass-bents, and roots, well lined with wool and grass, and the eggs, from 4 to 5, are dull light stone-grey with purplish brown shell-markings and dull liver-brown or nut-brown surface-spots and blotches.

348. Southern Grey Shrike.

LANIUS MERIDIONALIS.

Lanius meridionalis, Temm., Man. d'Orn. i. p. 143, (1820); Gould, B. of E. ii. pl. 67; Dresser, iii. p. 387, pl. 147; Gadow, Cat. B. Br. Mus. viii. p. 246.

Alcandon real, Span.; *Picanso*, Portug.

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♂ *ad.* (Spain). Upper parts very dark plumbeous; wings black; the inner primaries and secondaries tipped with white; inner webs of secondaries narrowly margined with white; middle tail-feathers black, the outer black at the base, otherwise white, the outermost almost entirely white; the white alar patch very small; a distinct white superciliary line; no frontal black band; under parts vinous pink; bill and legs black; iris brown. Culmen 0·75, wing 4·1, tail 4·5, tarsus 1·15 inch. Sexes alike. The young bird is much duller in colour, the throat and abdomen are dingy white, the rest of the under parts dull vinous.

Hab. Spain, Portugal, and the south of France.

Like its allies it frequents bush-covered plains and does not differ from them in its general habits. Its nest is placed on a bush or low tree, and resembles that of *L. excubitor*. The eggs usually 4 or 5 in number are deposited late in April or early in May and are greyish white thickly covered with purplish grey shell-markings and rich dark nut-brown surface-spots and blotches, measuring about 1·8 by 0·77. Compared with eggs of *L. excubitor* the markings are more profuse and more generally scattered over the surface of the egg.

349. Algerian Grey Shrike.

LANIUS ALGERIENSIS.

Lanius algeriensis, Lesson. Rev. Zool. 1839, p. 134; Dresser, iii. p. 391, pl. 148; Gadow, Cat. B. Br. Mus. viii. p. 244.

Tâïr-sidi-sliman, Arabic.

♂ *ad.* (Algeria). Resembles *L. meridionalis* differing in having the under parts dark grey, not vinous, and having no white superciliary stripe, but a narrow black frontal line. Culmen 0·85, wing 4·25, tail 4·7, tarsus 1·2 inch.

Hab. Morocco, Algeria, and Tunis, but not south of the Atlas range.

In habits it does not differ from its congeners. It breeds in April or May, placing its nest in a bush or low tree. The nest is constructed of twigs, and lined with wool, feathers, and rags. The eggs, usually 4 in number, are pale isabelline with ashy shell-markings and liver-brown surface-spots and blotches, and measure about 0·95 by 0·6.

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350. Lesser Grey Shrike.

LANIUS MINOR.

Lanius minor, Gmel. Syst. Nat. i. p. 308 (1788); Naum. ii. p. 15, Taf. 50; Gould, B. of E. ii. pl. 68; id. B. of Gt. Brit. ii. pl. 14; Newton, i. p. 205; Dresser, iii. p. 393, pl. 149; Gadow, Cat. B. Br. Mus. viii. p. 235; Saunders, p. 149; Lilford, ii. p. 71. pl. 33.

Pie-grièche d'Italie, French; *Averla cenerina*, Ital.; *Grauer Würger*, German; *Chernolobui Sorokoput*, Russ.

♂ *ad.* (Piedmont). Upper parts delicate blue-grey, paler on the rump and scapulars; quills black, brownish towards the tips; secondaries tipped with white; wing-coverts black; a conspicuous white speculum; tail as in *L. elegans*; forehead, feathers round the eye, and ear-coverts black; cheeks, chin, throat, and under tail-coverts white; rest of under parts rose-pink; bill and legs black; iris brown. Culmen 0·55, wing 4·6, tail 3·9, tarsus 1·0 inch. The female differs in having less black on the forepart of the head; a narrow frontal white band crosses the forehead and it is otherwise varied by a few blackish feathers. The young bird has no trace of the black forehead, the upper parts are ashy grey with fine transverse brown bars, the under parts dull yellowish white.

Hab. Central and southern Europe, accidentally in Britain; Asia Minor, Persia, Turkestan and Dzungaria, east as far as the basin of the Ili in Kuldja, and north to 56° or 57° N. Lat. in Western Siberia, wintering in Africa as far south as Damara-land and the Tati river.

Frequents bush-covered plains, gardens, and groves, but not forests, and does not affect the hills nor marshy localities. It is not shy, and may generally be seen perched in some exposed place. With other birds it is quarrelsome. Its flight is light and easy, its usual note a harsh *shek, shek*, its call-note *kioiä, kwiell* and *perletch* and it is a remarkably clever mimic. It feeds chiefly on insects and their larvæ, and also on fruit. It breeds in May, its nest resembling that of its allies and is placed on a high bush or a tree. The eggs from 5 to 7 in number are pale bluish green with purplish grey shell markings and brown surface-spots and blotches, in size averaging about 0·95 by 0·62.

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351. Bay-Backed Shrike.

LANIUS VITTATUS.

Lanius vittatus, Valenciennes, Dict. Sc. Nat. xl. p. 227 (1826); Gadow, Cat. B. Br. Mus. viii. p. 280; Oates, F. Brit. Ind. Birds, i. p. 462; *L. hardwickii* (Vigors), P.Z.S. 1831, p. 42; (Gould), Cent. Himal. B. pl. 12, fig. 1.

Pachanak, Hindu; *Chota-kilotora*, Beng.

♂ *ad.* (India). Forehead extending to the forepart of the crown, and a broad band extending round the eye and over the ear-coverts deep black; crown behind the black band white, darkening into grey on the nape and hind neck; back and scapulars deep chestnut-maroon; rump white; upper tail-coverts grey; wings black externally margined with rufous buff; middle tail-feathers black, the rest white at base, otherwise black tipped with white, the outermost nearly all white; chin, throat, and under parts white, the breast and upper abdomen fulvous; the flanks dark rusty red; bill black, paler at the base of the mandible; legs blackish plumbeous; iris dark brown. Culmen 0·55, wing 3·4, tail 3·5, tarsus 0·85 inch. The female is paler and duller in colour and lacks the black frontal band.

Hab. Afghanistan, Baluchistan and the peninsular of India east to Bhutan; the Rajmehal hills and Midnapore to the east, and Mysore and the foot of the Nilgiris to the south.

Like its congeners it inhabits the bush-covered plains, low thorny jungle, groves, gardens, and hedgerows, and in general habits does not differ from them. In the Himalayas it ascends to an altitude of 4,000 to 5,000 feet. The breeding season extends from April to September, but the eggs are chiefly deposited in June and July. The nest is placed on a tree or in a bush or hedge and is compactly built of twigs, grass-stems, cobwebs, wool, rags, and feathers, and neatly lined with fine grass or roots. The eggs 4 to 6 in number are greenish grey, grey, or yellowish stone-colour, finely blotched or spotted with pale purplish shell-markings and yellowish brown or dull brown surface-blotches, averaging about 0·83 by 0·66.

352. Red-Backed Shrike.

LANIUS COLLURIO.

Lanius collurio, Linn. Syst. Nat. i. p. 136 (1766); Naum. ii. p. 30, Taf. 52; Hewitson, i. p. 70, pl. xx. figs. 3, 4; Gould, B. of E. ii. pl. 69; id. B. of Gt. Brit. ii. pl. 15; Newton, i. p. 209; Dresser, iii. p. 399, pl. 150; Gadow, Cat. B. Br. Mus. viii. p. 286; Saunders, p. 151; Lilford, ii. p. 74, pl. 34.

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Pie-grièche écorcheur, French; *Desollador, Verdugo*, Span.; *Averla-piccola*, Ital.; *Rothrückiger Würger*, German; *Graauwe Klaauwier*, Dutch; *Brunryggad Tornskata*, Swed.; *Almindelig Tornskade*, Dan.; *Pienempi-Lepinkainen*, Finn.; *Sorokoput-julan*, Russ.

♂ *ad.* (England). Crown, nape, and upper tail-coverts blue-grey; mantle brownish chestnut-red; wings blackish brown narrowly margined externally with rufous; wing-coverts black with broad rufous margins; middle tail-feathers black, the rest white at the base, then black with narrow white tips; frontal line, lores, and ear-coverts deep black; chin, lower abdomen, under wing- and tail-coverts white; rest of under parts rose-coloured; bill and legs black; iris brown. Culmen 0·6, wing 3·7, tail 3·2, tarsus 0·95 inch. The female is brownish grey above, faintly barred, the tail russet-brown tipped with white; the under parts dull white with spade-shaped brown vermiculations; old females, however, assume a plumage nearly approaching that of the male. The young bird has the upper parts reddish brown, the under parts pale fulvous, both above and below barred with blackish and brown vermiculations; bill and legs dull plumbeous; iris light brown.

Hab. Northern Europe; in Sweden as far north as Umeå; Central Europe, not common in the south-west; Asia as far east as the Altai range, wintering in Africa, not on the west coast, as far south as the Cape Colony.

Inhabits plains, fields, gardens, and hedgerows, and feeds on insects, especially grasshoppers, mice, and even small birds, and impales its prey on thorns like its allies. Its usual note is a harsh *shek, shek*, and the male utters a sort of song. It breeds in May or June, building a somewhat large nest of twigs, roots, and grass-bents, well lined with wool, moss, and horsehair, and usually places it in a bush or high hedge. The eggs 4 to 6 in number vary from light greenish grey with light violet shell-markings and brown surface-spots, to pale salmon-colour with violet shell-, and reddish surface-blotches, and average about 1·0 by 0·7.

353. Isabelline Shrike.

LANIUS ISABELLINUS.

Lanius isabellinus, Ehrenb. Symb. Phys. i. fol. e, footnote, (1828); Dresser, iii. p. 413 (partim); Gadow, Cat. B. Br. Mus. viii. p. 277; Oates, F. Brit. Ind. Birds, i. p. 467; Gätke, Vogelw. Helgol. p. 227; *L. arenarius*, Blyth, J.A.S. Beng. xv. p. 304 (1846); Hume and Henders. Lah. to Yark. p. 183, pl. iii.

Bulanui-Sorokoput, Russian.

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♂ *ad.* (Turkestan). Upper parts rufescent ashy brown; forehead pale rufous; lower rump and upper tail-coverts bright rufous; wings brown with fulvous margins; a very small white spot at the base of the primaries; tail dull rufous; lores, supercilium, and a narrow band across the forehead at the base of the bill fulvous white; a spot in front of the eye and ear-coverts black; under parts pale fulvous, washed with rosy buff on the flanks; bill dark brown above, horn-flesh below, but brown at the tip; legs slaty black; iris dark brown. Culmen 0·68, wing 3·6, tail 3·5, tarsus 0·95 inch. The female has the ear-coverts brown and the loral and superciliary stripe nearly obsolete. The young bird is pale fulvous narrowly barred with blackish above, and with wavy cross bars below.

Hab. Turkestan and Afghanistan east to the Lob-nor; wintering in N.W. India, Persia, Arabia, Abyssinia, and the Blue Nile. Has once occurred on Heligoland.

Inhabits bush-covered localities, chiefly sandy and stony desert places, and in general habits does not differ from its allies. Like them, it builds a somewhat bulky nest of grass-bents and twigs lined with fine grass and plant-cotton, and generally places it on a bush. The eggs 4 or 5 in number are dull creamy white marked with pale greyish underlying, and dull pale brownish overlying surface-spots and blotches, which are usually collected in a wreath round the larger end, in size averaging about 0·85 by 0·7.

354. Subsp. Lanius speculiger.

Lanius speculigerus, Tacz. J.f.O. 1874, p. 322; id. F. O. Sib. O. p. 504; Gadow, Cat. B. Br. Mus. viii. p. 279; *Otomela isabellina* var. *orientalis*, Bogd. Sorokop. Russk. Faun. p. 38 (1881).

Differs from *L. isabellinus*, of which it is but an eastern race in having a large white alar speculum, and in having the whole of the lores deep black; the quills also are of a darker brown. Culmen 0·7, wing 3·72, tail 3·35, tarsus 0·95 inch.

Hab. Southern Dauria, the Gobi desert, and probably eastern Mongolia.

Differs so little from *L. isabellinus* that I am very doubtful if it should be treated as distinct. I have seen a specimen from Turkestan, that agrees pretty closely with others from Dauria, and also a similar example from Central Africa.

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355. Severtzoff's Rufous Shrike.

LANIUS PHŒNICUROIDES.

Lanius phœnicuroides, Severtz. J.f.O. 1873, p. 347 ; Bogdanoff, Sorokop. Russk. Faun. p. 14, pl. i. figs, 2, 3 ; Gadow, Cat. B. Br. Mus. viii. p. 278 ; *L. isabellinus*, Dresser, iii. p. 413 (partim) pl. 152.

Djungarski Sorokoput, Russian.

♂ *ad.* (Turkestan). Differs from *L. isabellinus* in having the back ashy brown and the crown much more rufous ; the superciliary stripe larger, pure white, and extended in a narrow line across the base of the upper mandible ; the lores and patch through the eye and covering the ear-coverts deep black ; and the alar speculum larger and more distinct. Culmen 0·65, wing 3·65, tail 3·2, tarsus 0·95 inch.

Hab. Transcaspia and Turkestan, wintering in Persia, Arabia, and Abyssinia, and has been met with in Sind.

In habits it does not differ from *L. isabellinus*, but appears to be less often met with in the true desert. Some specimens are much greyer than others and Bogdanoff even subdivided it (*l.c.*) into two subspecies, naming the more rufous bird *Otomela phœnicuroides* subsp. *romanowi* and the greyer variety *O. phœnicuroides* subsp. *karelini*.

It breeds in Transcaspia and Turkestan in May, placing its nest on a bush or low tree. The nest is neatly constructed of grass-bents, plant-stems, and fine roots lined with fine bents and rootlets, and the eggs 4 to 6 in number are pale salmon-colour marked with pale rufous grey and rufous spots collected chiefly round the larger end, in size averaging about 0·9 by 0·65.

356. Brown Red-tailed Shrike.

LANIUS CRISTATUS.

Lanius cristatus, Linn. Syst. Nat. i. p. 134 (1766) ; Bogd. Sorokop. Russk. Faun. p. 3, pl. 1. fig. 1 ; Gadow, Cat. B. Br. Mus. viii. p. 271 ; Oates, F. Brit. Ind. Birds. i. p. 468 ; *L. phœnicurus*, Pall. Zoogr. Ross. As. i. p. 405 (1811) ; Tacz. F. O. Sib. O. p. 498.

Daurski Sorokoput, Russ. ; *Kákháti* Beng. ; *Kher-Khetta*, Hindu ; *Batti-gadu*, Tel. *Hnet-beloo*, Burm.

♂ *ad.* (Dauria). Upper parts reddish brown, more rufous on the crown ; wings dark brown margined with rufous, the lesser wing-coverts like the back ; no white alar speculum ; tail reddish brown, paler at the tip ; lores and a patch passing through the eye and extending over the ear-

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coverts black ; forehead, supercilium, cheeks, chin, and throat white ; rest of the under parts rufous buff ; bill pale plumbeous, the upper mandible from the nostril, and the tip of the lower mandible dark horn ; legs bluish brown ; iris dark brown ; eyelids plumbeous. Culmen 0·7, wing 3·5, tail 3·6, tarsus 1·0 inch. The female has the supercilium creamy white, the under parts isabelline, the flanks rufous buff, these and the breast faintly vermiculated, and the young have the upper parts distinctly barred and the under parts vermiculated with dark brown.

Hab. Asia, from the Yenesei to Kamchatka and Dauria, and from Yarkand to the east coast of China ; wintering in India, Ceylon, the Andamans, Burma, the Malay peninsula, and as far south as Java.

Frequents bush-covered plains especially near water, and is also found in the vast marshes where the rivers empty themselves into Lake Baikal, but not in the forests. Its call-note resembles the syllable *keh*, frequently repeated. Its nest resembles that of *L. collurio*, and is placed on a bush or low tree never at any great height above the ground. Its eggs, 4 to 6 in number, resemble rufous eggs of *L. collurio*, but are, if anything, rather smaller, averaging about 0·82 by 0·62. The eggs are deposited late in May or in June.

361. Japanese Red-tailed Shrike.

LANIUS SUPERCILIOSUS.

Lanius superciliosus, Latham, Ind. Orn. Suppl. p. 20, No. 14 (1801); Bogdanoff, Sorokop. Russk. Faun. p. 51 ; Gadow, Cat. B. Br. Mus. viii. p. 273 ; Tacz. F. O. Sib. O. p. 496 ; Seebohm, B. Jap. Emp. p. 105.

Akamozu, Jap.

♂ *ad.* (Japan). Differs from *L. cristatus* in having the upper parts much brighter, usually rich fox-red, the forehead and fore-crown and a broad supercilium pure white ; wings blackish externally margined with rufous ; tail fox-red tipped with dull white. Culmen 0·7, wing 3·5, tail 3·72, tarsus 0·84 inch.

Hab. The island of Saghalien, Askold, and Japan ; wintering in the Malay peninsula, Philippines, and Java.

In general habits it does not differ from *L. cristatus*, of which it is an eastern form. It breeds in Japan, placing its nest in thorny bushes at from 4 to 10 feet from the ground. The eggs, which are deposited from the middle of June to the early part of July, 4 to 6 in number, resemble rufous eggs of *Lanius auriculatus*.

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362. Philippine Red-tailed Shrike.

LANIUS LUCIONENSIS.

Lanius lucionensis, Linn. Syst. Nat. i. p. 135 (1766); Walden, Trans. Zool. Soc. ix. p. 171, pl. xxix, fig. 1; Oates, Faun. Brit. Ind. Birds, i. p. 469; Gadow, Cat. B. Br. Mus. viii. p. 274; Tacz. F. O. Sib. O. p. 502.

♂ *ad.* (China). Forehead and supercilium white, the former merging into blue-grey on the fore-part of the crown, and then to brownish grey on the hind-crown; upper parts greyish brown, tinged with rufous on the rump; no wing speculum; otherwise like *L. cristatus*, but the under parts below the throat are warm orange-buff. Culmen 0·65, wing 3·6, tail 3·5, tarsus 0·95 inch. The female has the under parts paler, the lores and ear-coverts brownish black, and the white and grey on the forehead less pronounced. The young bird resembles *L. cristatus*, but is rather greyer in tinge.

Hab. The Ussuri country in E. Siberia, Askold, China, Corea, and Manchuria; wintering in the Andamans, Nicobars, South Tenasserim, the Malay peninsula, Borneo, and the Philippines.

In habits it does not differ from its allies, and I do not find any description of its nest and eggs on record. It is distinguishable from *L. cristatus* by its blue-grey forehead, orange-buff abdomen, and by the upper parts being greyer.

363. Bull-headed Shrike.

LANIUS BUCEPHALUS.

Lanius bucephalus, Temm. and Schlegel, Faun. Jap. p. 39, pl. 14 (1850); Bogdanoff, Sorokop. Russk. Faun. p. 86; Gadow, Cat. B. Br. Mus. viii. p. 270; Tacz. F. O. Sib. O. p. 491; ? *L. brachyurus*, Pall. Zoog. R. As. i. p. 405 (1811).

Mozu, Jap.

♂ *ad.* (Japan). Head as in *L. cristatus*, but the white supercilium narrower; upper parts and tail slate-grey, the latter with the central feather blackish towards the end, and all with narrow pale tips; quills blackish with dull white margins to the secondaries; a small white speculum; chin, throat, and abdomen white; flanks warm rufous; bill bluish black, paler at the base; legs blackish brown; iris brown. Culmen 0·68, wing 3·4, tail 3·6, tarsus 1·01 inch. The female is much more rufous, the back is reddish brown, the wings brown margined with

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rufous, the lores and ear-coverts reddish brown, and the under parts dull white with dark vermiculations. The young resemble the female, but have the upper parts browner and the under parts more boldly and closely vermiculated.

Hab. Japan, north-east China, and is said to have occurred in Dauria; winters in Southern China.

In habits it does not seem to differ from its allies. It breeds in Japan, and places its nest generally in thorny thickets about 4 feet from the ground. The nest is constructed of twigs and grasses, and lined with finer grass, and the eggs, 4 to 6 in number, are deposited from the end of March to the early part of July, and resemble the blue-green varieties of the eggs of *L. auriculatus*.

364. Thick-billed Shrike.

LANIUS TIGRINUS.

Lanius tigrinus, Drapiez, Dict. Class. Hist. Nat. xiii. p. 523 (1828); Gadow, Cat. B. Br. Mus. viii. p. 289; Tacz. F. O. Sib. O. p. 494; Oates, F. Brit. Ind. Birds, i. p. 470; *L. magnirostris*, Less. in Belanger's Voy. Ind. Orient. p. 251 (1834); Walden, Ibis, 1867, p. 220, pl. vi.; David and Oust. Ois. Chine, p. 97.

♂ *ad.* (Malacca). Crown, nape, and hind neck blue-grey; upper parts and tail bright fox-red broadly barred with black; quills dark brown externally margined with fox-red; wing-coverts like the back; forehead, lores, and a patch extending over the ear-coverts deep black; under parts white, the flanks ashy grey slightly barred on the lower part; bill plumbeous; legs plumbeous blue; iris brown, edge of eyelid black. Culmen 0·68, wing 3·4, tail 2·95, tarsus 0·92 inch. The female is duller and browner, and the young bird has the upper parts and head reddish brown boldly barred with black and the under parts dull isabelline barred with dark brown; no black patch on the side of the head, that part being fulvous, speckled and mottled with brown.

Hab. E. Siberia and China; wintering in S. Tenasserim, Siam, the Malay peninsula, and Sumatra.

Frequents bush-covered, thinly-wooded localities and pine woods, and feeds on insects, chiefly coleoptera and orthoptera. It breeds in Eastern Siberia and Northern China; its nest, which is neatly constructed of plant-stems and grass-bents, lined with finer grasses, is placed in the fork of a bush, from 2 to 4 feet above the ground. The eggs, 4 to 5 in number, resemble the reddish varieties of the eggs of *L. collurio*, in size averaging about 0·88 by 0·64.

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365. Radde's Grey Shrike.

LANIUS RADDII.

Lanius raddii, Dresser, P.Z.S. 1888, p. 291, pl. v.; id. Birds of E. ix. p. 171, pl. 669.

♂ *ad.* (Transcaspia). Upper parts blue- or french-grey, paler on the crown and forehead, the lower part of the mantle brownish buff; wings dull blackish, the secondaries narrowly margined with dull white; white alar patch very small; central tail-feathers black, the outermost white with a black median line broader towards the tip, the rest with more black towards the tip; forehead and a line over the eye white; a narrow frontal line, lores, and a band passing through the eye and including the ear-coverts black; chin, throat, and under parts white, the flanks washed with pale warm buff; bill and legs black; iris brown. Culmen 0·6, wing 3·55, tail 3·2, tarsus 0·9 inch.

Hab. Transcaspia and Turkestan.

A very little known species, and nothing is on record respecting its habits or nidification.

366. Subsp. Lanius Dichrourus.

Lanius dichrourus, Menzbier, Ibis, 1894, p. 382.

Ad. Differs from *L. raddii* in having the upper parts dark smoke-grey tinged with brownish on the back, the tail with more black, the outer feather with the terminal third black margined with white, the throat only white; rest of the under parts pale buff-pink, the flanks vinaceous cinnamon, and the under wing-coverts brown, the lesser ones margined with white; bill horn-brown, the base of the mandible paler; legs dark brown; iris brown. Culmen, 0·75, wing 3·75, tail 3·4, tarsus 0·9 inch.

Hab. Kenderlik river near the Lake Nov-Zaïssan.

Nothing is on record respecting the habits of this Shrike. The present group of Shrikes, having an extensive and uninterrupted range is, like other similar groups, subject to considerable local variation, these varieties or forms intergrading into each other in localities where they meet. Several of these forms have been described by Russian authors, but I have been unable to examine a series or even individual specimens of most of them, and am therefore unable to give an opinion on them, but may say that *Lanius eleagni* Suschkin is stated to somewhat resemble *L. collurio*, as well as the Red-tailed Shrikes, and that *L. infuscatus* Suschkin differs but little from it. *L. bogdanovi* is said to differ from *L. raddii* in being much smaller, with a shorter tail, and the upper parts,

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especially the head, are less grey. Should I, before completing the present work, be able to examine specimens of these Shrikes, I shall be able to add a few remarks by way of appendix.

367. Grey-backed Shrike.

LANIUS TEPHRONOTUS.

Lanius tephronotus (Vigors), P.Z.S. 1831, p. 43; Gadow, Cat. B. Br. Mus. viii. p. 260; Oates, F. Brit. Ind. Birds, i. p. 465.

Bhadraya, Bagaha-teutha, Nep.; *Sakrik-pho,* Lepch.; *Totem,* Bhut.

♂ *ad.* (India). Upper parts with crown, nape, and lesser wing-coverts dark slaty grey; rump and upper tail-coverts rufous orange; wings black narrowly margined with pale rufous; tail greyish brown, the middle feathers nearly black, all with paler tips; forehead, a broad band through the eye and ear-coverts deep black; chin, throat, and abdomen white; flanks and sides of the breast ferruginous; bill black, yellowish horn at base of lower mandible; legs black; iris dark brown. Culmen 0·7, wing 4·0, tail 4·85, tarsus 1·0 inch. Sexes alike. The young bird is duller, lacks the black frontal band; ear-coverts dark brown; under parts dull white, these and upper tail-coverts barred with brown.

Hab. Himalayas from Kashmir east to the Njan-schan mountains, Kan-su and Western China; wintering in Nepal, Burma, and the plains of Bengal and Assam.

Frequents gardens, groves, and cultivated ground, and is seldom seen in such open country as its congeners, perches on hedges, bushes, and small bare trees, has a harsh chattering note and appears to be most noisy towards sunset. It breeds in the Himalayas at altitudes of from 5,000 to 8,000 feet, and in the Njan-schan mountains, but there does not appear to be any reliable information as to its nest and eggs.

368. Rufous-backed Shrike.

LANIUS ERYTHRONOTUS.

Lanius erythronotus (Vigors), P.Z.S. 1831, p. 42; (Gould) Cent. Himal. B. pl. 12, fig. 2; Bogd. Sorokop. Russk. Faun. p. 79; Gadow, Cat. B. Br. Mus. viii. p. 263; Oates, F. Brit. Ind. Birds, i. p. 464; *L. caniceps,* Blyth, J.A.S. Beng. xv. p. 302 (1836); Gadow, tom. cit. p. 265.

Indiski Sorokoput, Russ.; *Mattiya latora, Kajala latora,* Hind.; *Yerra belinchi,* Tel.

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♂ *ad.* (India). Crown, nape, and upper back pale grey ; rest of upper parts ferruginous ; wings blackish, externally margined with pale rufous ; larger wing-coverts similarly tipped ; external tail-feathers brown, the rest black, all with rufous tips ; forehead and a broad band through the eye to the ear-coverts black ; chin, throat, and upper breast white, rest of under parts rufous becoming whitish on the middle of the abdomen ; bill and legs blackish ; iris brown. Culmen 0·75, wing 3·7, tail 4·7, tarsus 1·05 inch. The young bird is duller, has the ear-coverts brownish, the forehead and lores fulvous, the cheeks and throat white, the rest of the under parts pale fulvous irregularly barred with brown.

Hab. Transcaspia, Afghanistan, Turkestan, and the whole of India from Kashmir to Cape Comorin, and Sind to Bengal ; also Ceylon.

In habits it does not differ from its allies, is a bold and fearless bird, and spends most of the day on a favourite perch on the look-out for its prey. Its usual note is loud and harsh, and in the spring it utters the merest semblance of a song. It frequents jungly localities, hedgerows and bushes in cultivated places near jungle. It nests in Turkestan and throughout India from March to September. Its nest is placed on a bush or low tree, and is neatly constructed of plant-stems, fine twigs and roots, wool, old rags, and hair, and lined with fine grass. The eggs, from 4 to 5 in number, are creamy white or reddish white with grey shell-markings and reddish surface-spots which are generally collected round the larger end, in size averaging about 0·92 by 0·71. They most nearly resemble eggs of *L. collurio*, but are not so boldly marked.

369. Woodchat Shrike.

LANIUS AURICULATUS.

Lanius auriculatus, Müll. Natursyst. Suppl. p. 71 (1776) ; Dresser iii. p. 407, pl. 151 ; Newton, i. p. 215 ; Gadow, Cat. B. Br. Mus. viii. p. 283 ; *L. pomeranus*, Sparrm. Mus. Carls. pl. i. (1786) ; Saunders, p. 153 ; *L. rufus*, Gmel. Syst. Nat. i. p. 302 (1788) ; Naum. ii. p. 22, pl. 51, figs. 1, 2 ; Gould, B. of E. ii. pl. 70 ; id. B. of Gt. Brit. ii. pl. 16 ; Hewitson, i. p. 72, pl. 20, fig. 2 ; *L. rutilus*, Lath. Lilford, ii. p. 75, pl. 35.

Pie-grièche rousse, French ; *Picanso*, Portug. ; *Alcaudon real*, Span. ; *Averla capirossa*, Ital. ; *Rothköpfiger Würger*, Germ. ; *Roodkoppige Klaauwier*, Dutch ; *Rhovedet Tornskade*, Dan. ; *Krasnogolovi Sorokoput*, Russ.

♂ *ad.* (Spain). Forehead, fore-crown and a patch through the eye continued down the side of the neck deep black ; a spot on the lores white ; rest of crown and nape chestnut-red ; fore part of back, wings, and tail

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black ; an alar patch and tips of secondaries and all but the middle tail-feathers white ; base of tail-feathers also white ; lower back grey ; rump, upper tail-coverts, and scapulars white ; chin, throat, and under parts white with a slight fulvous tinge ; bill, feet, and iris brown. Culmen 0·65, wing 3·9, tail 3·35, tarsus 0·9 inch. The female differs in being much duller in colour. The young bird has the upper parts brown, more rufous on the crown and back, and barred with ochre and black, the wings and tail brownish black, the chin white, the rest of the under parts fulvous, barred with narrow brown vermiculations.

Hab. Central and Southern Europe, of accidental occurrence as far north as Denmark and England, ranging east to Persia ; wintering in Africa as far south as Nubia and the Gold Coast. Of doubtful occurrence in Sind.

Like its allies it frequents the open country and fields where bushes and trees abound, and is not so often seen perched in exposed places, but keeps more to the foliage. It feeds chiefly on insects, and but seldom on weakly young birds. Its usual note is *krähts*, *krähts*, and its alarm-note *grack*, *kjäck*, *kack*, and it is an excellent mimic. Its nest is a neat but slight structure composed of plant-stems, frequently of a sweet-smelling species, and is placed on a bush or in the fork of a tree, usually at no great altitude. The eggs, from 4 to 6 in number, are usually deposited in May, and closely resemble those of *Lanius collurio*, but the red variety is comparatively rare.

370. Masked Shrike.

LANIUS NUBICUS.

Lanius nubicus, Licht. Verz. Doubl. p. 47 (1823) ; Dresser, iii. p. 417, pl. 153 ; Gadow, Cat. B. Br. Mus. viii. p. 282 ; *L. personatus*, Temm. Pl. Col. pl. 246, fig. 2 (1824).

♂ *ad.* (Asia Minor). Crown, lores, ear-coverts, hind neck, upper parts, wings, and central tail-feathers deep black ; scapulars, wing-speculum, and a broad band across the forehead with the supercilium pure white ; secondaries narrowly margined and tipped with white ; the outer tail-feathers white, the next white with blackish internal margin, the third with external web and end white ; chin, throat, and under tail-coverts white, the flanks rich ferruginous, and the upper breast washed with ferruginous ; bill and feet black ; iris brown. Culmen 0·6 wing, 3·5, tail 3·3, tarsus 0·85 inch. The female is duller and has the upper parts greyish brown. The young resemble those of *L. auriculatus*, but are smaller, and have the upper parts rather browner.

Hab. South-eastern Europe, Asia Minor, and Palestine ; wintering in Northern Africa as far south as Abyssinia and Senegambia.

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Frequents bush-covered plains, vineyards, and graveyards planted with tall cypresses, and is somewhat shy and retiring in its general habits. It feeds entirely on insects, chiefly coleoptera, and is said to utter a melodious but somewhat monotonous song, not unlike that of *Hypolais olivetorum*. It breeds in May and June, placing its nest in a tree in the centre of upright half dry boughs in such a manner that it is covered from above by a branch or pendant leaves, or else in the summit of a tree. The nest is compactly and closely constructed of fine roots and grass-bents, interwoven with threads, rags, etc., and lined with finer rootlets. The eggs, 6 or 7 in number, are dull greenish buff spotted with dull brown or umber-brown, the markings frequently collected so as to form a wreath round the larger end. In size they average about 0·9 by 0·63.

TELEPHONUS, Swains., 1831.

371. Hooded Shrike.

TELEPHONUS CUCULLATUS.

Telephonus cucullatus (Temm.), Man. d'Orn. iv. p. 600 (1840); Gadow, Cat. B. Br. Mus. viii. p. 126; *L. tchagra*, Schlegel, Rev. Crit. p. xxi. (1844); *L. erythropterus* (nec. Shaw), Dresser, iii. p. 423, pl. 154.

Abermat, Moorish.

♂ *ad.* (Morocco). Crown, nape, and a stripe from base of the bill through the eye beyond the ear-coverts glossy black; a broad superciliary stripe white, tinged with ochreous isabelline; sides of the face and upper parts greyish ashy brown, greyer on the rump; wings and tail black, the former with broad chestnut-red external margins; tail graduated, the central rectrices brownish black, obsoletely barred; all the feathers broadly tipped with white; upper throat and middle of abdomen whitish; rest of under parts dark ashy grey; bill black; legs plumbeous; iris brown. Culmen 1·0, wing 3·55, tail 4·9, tarsus 1·3 inch. Sexes alike. The young bird has the crown mixed with brown and the black streak through the eye is less distinct.

Hab. Algeria and Morocco, and is said to have occurred in Spain.

Frequents bushy localities, and forests near the coast, and unlike the true Shrikes when pursued it runs from bush to bush, hides in the dense thickets, and does not take flight. It feeds on insects of various kinds and their larvæ, which

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it usually obtains on the ground. Its call-note is harsh, resembling the syllables *tschagra, tschagra, chugra, chrug,* and its song or whistle is an oft-repeated sweet prolonged note, very unlike the note of a *Lanius*. Its nest is placed on a bush or low tree, is bulky, constructed of twigs and roots, lined with wool, hair, or feathers, and the eggs, 4 to 6 in number, are deposited in April or May, and are white spotted and splashed with pale purplish red shell- and red surface-markings, which are chiefly collected at the larger end; in size they average about 0·98 by 0·75.

AMPELIS, Linn., 1766.

372. Waxwing.

AMPELIS GARRULUS.

Ampelis garrulus, Linn. Syst. Nat. i. p. 297 (1766); Naum. ii. p. 143, pl. 59; (Gould), B. of E. ii. pl. 160; id. B. of Gt. Brit. ii. pl. 21; Newton, i. p. 523; Dresser, iii. p. 429, pl. 155; Newton, Ibis, 1861, p. 92, pl. iv. (eggs); Sharpe, Cat. B. Br. Mus. x. p. 212; Saunders, p. 155; Lilford, ii. p. 91, pl. 42; Ridgway, p. 464.

Jaseur de Bohême, French; *Beccofrusone*, Ital.; *Pestvogel*, Dutch; *Siedenschwanz*, Germ.; *Sidensvands*, Dan. and Norweg.; *Sidensvans*, Swed.; *Tilhi, Korva-rastas*, Finn.; *Pallje-rastis*, Lapp.; *Sviristiel*, Russ.; *Ki-ren-jaku*, Jap.

♂ *ad.* (Finland). Upper parts greyish brown, greyer on the rump; under parts greyish drab; crown with a long crest; forehead, sides of crest, and under tail-coverts chestnut-red; lores, a streak through the eye, and throat deep black; quills blackish, yellow near the end of the outer web, and edged with white at the tip; secondaries deep grey, white at the end, the shaft with a red, wax-like tip; tail grey at base, then black broadly tipped with bright yellow; bill blackish horn, paler at the base; legs black; iris rich reddish brown. Culmen 0·65, wing 4·55, tail 2·8, tarsus 0·8 inch. Sexes alike. The young bird has the upper parts paler brown slightly streaked, the throat and under parts greyish buff streaked with yellowish buff, the white on the secondaries absent.

Hab. During the summer the arctic portions of the Old and New Worlds, migrating south in winter, its migrations being very irregular.

In its habits it is very tame and confiding, though less so in the summer than in the winter. When perching it sits very erect, its crest being clearly visible, and when disturbed it at

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once raises and spreads it. It is as a rule a very silent bird, and the only note I ever heard it utter was a low plaintive whistle. It feeds on insects of various kinds, and in the winter on berries, especially those of the juniper and mountain-ash. It breeds within the Arctic Circle, the nest being placed in a birch or fir-tree, usually 10 to 12 feet from the ground. It is constructed of twigs, moss, and lichen, lined with fine lichen. The eggs, which are usually deposited in June, are pale blue with pale purplish shell-markings and black surface-spots, but occasionally the ground colour is warm pinkish. In size they average about 0·96 by 0·69.

373. Japanese Waxwing.

AMPELIS JAPONICA.

Ampelis japonica (Siebold), Hist. Nat. Jap. St. No. 2 · (1824); Sharpe, Cat. B. Br. Mus. x. p. 217; *A. phœnicoptera* (Temm.), Pl. Col. ii. pl. 450 (1828); (id. et Schlegel), Faun. Jap. Aves, pl. xliv.; (Radde), Reis. Sib. Vög. p. 201, Taf. 6, fig. 1; Tacz. F. O. Sib. O. p. 454.

Hi-ren-jaku, Jap.

♂ *ad.* (Japan). Differs from *A. garrulus* in having the secondaries and the tail tipped with crimson, and lacking all yellow on the tail and wings, the under tail-coverts fawn-coloured at the base, otherwise crimson, and the wing-coverts tipped with crimson; bill and legs black; iris blood-red. Culmen 0·52, wing 0·4, tail 2·1, tarsus 0·7 inch. Sexes alike.

Hab. Eastern Siberia, chiefly the Ussuri country; wintering in Japan and Northern China.

In its general habits it does not appear to differ from *A. garrulus*, but it is said to be much shyer and its call-note is not so loud. It breeds in Eastern Siberia, but its nest and eggs are as yet unknown.

HYPOCOLIUS, Bp., 1850.

374. Grey Hypocolius.

HYPOCOLIUS AMPELINUS.

Hypocolius ampelinus, Bp. Consp. Gen. Av. i. p. 336 (1850); Henglin, Ibis, 1868, p. 181, pl. v.; Sharpe, Cat. B. Br. Mus. iii. p. 316; Oates, F. Brit. Ind. Birds, i. p. 250; *Ceblepyris isabellina*, Hengl. Sitzungsber. K.K. Akad. Wien. xix. p. 284 (1856).

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♂ *ad.* Crown dull isabelline grey; a narrow line at base of bill, lores, space round the eye, ear-coverts, and a broad band across the nape and hind-neck deep black; upper parts, wing-coverts, and outer webs of secondaries pale blue-grey washed with isabelline; quills deep black with a broad white terminal band, the secondaries marked with black on the inner web; tail like the back but broadly terminated with deep black; under parts greyish isabelline, rather greyer on the breast; bill black; legs yellowish; iris brown. Culmen 0·6, wing 3·9, tail 4·5, tarsus 0·9 inch. Female rather smaller, more isabelline in tinge, lacking the black on the head, and has the primaries isabelline tinged with grey and tipped with black, the innermost with a narrow apical white margin.

Hab. Persia and the shores of the Persian Gulf; wintering in N.E. Africa; has occurred in Sind and Khelat.

Respecting its habits I find scarcely anything on record, except that it frequents desert or semi-desert localities and is usually seen amongst the palm-trees. It breeds in June and July, building a substantial cup-shaped nest, lined with fine grass, plant cotton, wool, and sometimes hair, which it usually places on the leaf of a date-palm at from 3 to 10 feet above the ground. The eggs, from 4 to 6 in number, are glossy leaden white, rarely with a greenish tinge, with lead-coloured blotches and spots, which are sometimes spread over the entire egg, and sometimes form a ring round the larger end. In size they average about 0·85 by 0·63.

HEMICHELIDON, Hodgson, 1845.

375. Siberian Flycatcher.

HEMICHELIDON SIBIRICA.

Hemichelidon sibirica (Gmel.), Syst. Nat. i. p. 936 (1780); Oates, Faun. Brit. Ind. Birds, ii. p. 5; Sharpe, Cat. B. Br. Mus. iv. p. 120; Tacz. F. O. Sib. O. p. 475; *H. fuliginosa*, Hodgs. P.Z.S. 1845, p. 32; Jerdon, B. of Ind. i. p. 458.

Dang-chim-pa-pho, Lepch.

♂ *ad.* (India). Upper parts with the wings and tail dark brown, secondaries and wing-coverts with pale margins; a white ring round the eye; lores mixed white and brown; middle of throat and abdomen white, the rest of the under parts smoky brown striped with dull greyish white; bill dark brown, yellowish below; legs brownish black; iris brown. Culmen 0·45, wing 3·1, tail 2·15, tarsus 0·5 inch. Sexes alike. The young have the upper parts streaked and spotted, the lesser wing-coverts tipped, and the larger coverts and quills margined with fulvous, and the

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under parts are paler than in the adult. Compared with *M. grisola* this species is much smaller and darker and the bill is shorter and wider.

Hab. Eastern Siberia from Kamchatka to Dauria, Mongolia, and China; the higher ranges of the Himalayas from Afghanistan and Kashmir to Sikkim; wintering at the foot of the Himalayas, in Burma, and the Malay peninsula.

In its general habits it much resembles *M. grisola*, frequenting groves and the forest where conifers and deciduous trees are intermingled. Its song is melodious and prolonged, and is uttered from the top of a tree. It breeds in June in Siberia, and in the Himalayas to an altitude of 13,000 feet, and places its nest on the small branches or near the trunk of a tree at an altitude of from 5 to 20 feet. The nest is bulky for the size of the bird, constructed of grass, rootlets, plant-stems, and moss, lined with fine moss and roots. The eggs, from 3 to 5 in number, resemble those of *M. grisola*, but the markings are smaller and they are smaller in size, measuring about 0·65 by 0·47.

ALSEONAX, Cabanis, 1850.

376. Brown Flycatcher.

ALSEONAX LATIROSTRIS.

Alseonax latirostris (Raffles), Trans. Linn. Soc. xiii. p. 312; Sharpe, Cat. B. Br. Mus. iv. p. 127; Oates, F. Brit. Ind. Birds, ii. p. 35; (Tacz.) F. O. Sib. O. p. 467; Hume and Henders. Lah. to Yark. p. 185, pl. v.; *Muscicapa cinereo-alba*, Temm. and Schlegel, Faun. Jap. Aves, p. 42, pl. 15.

Kosamebitaki, Jap.; *Zakki*, Hindu.

♂ *ad.* (India). Upper parts dull ashy brown, the feathers on the crown with somewhat darker centres; wings and tail dark brown, the secondaries and coverts with ashy white margins; outer tail-feathers with narrow whitish tips; a white ring round the eye; lores whitish; under parts white, washed with pale brownish ash on the breast and flanks; bill short and broad, black, the base of the lower mandible yellow; legs black; iris brown. Culmen 0·45, wing 2·8, tail 1·95, tarsus 0·5 inch. Sexes alike. The young have the upper parts spotted with fulvous, the crown blackish, streaked with fulvous, and the under parts mottled with brown. It can easily be distinguished from *M. grisola*, for besides being less streaked and spotted, and having a very short broad bill, it has the second quill shorter than the fifth, whereas in *M. grisola* it is longer.

Hab. Eastern Siberia, Japan, Corea, China, the Himalayas; wintering throughout India, in Burma, the Malay peninsula,

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Java, Sumatra, Borneo, and the Philippines, and is said to breed even in Ceylon.

In general habits and in its food it resembles *M. grisola*, and frequents groves and woods, chiefly those of non-evergreen trees. Its song is agreeable and melodious, and is usually uttered from an exposed position. Its nest is constructed of fine grass-bents or plant-stems, moss, and externally garnished with lichens and small pieces of bark, and carefully lined and neatly constructed, being easily distinguishable from that of *H. sibirica*. It is usually placed on the branch of a tree near the trunk, or on the bole of a willow. The eggs, 4 to 5 in number, are white with a faint greyish olivaceous tinge, unspotted, and measure about 0·66 by 0·5.

MUSCICAPA, Briss., 1760.

377. Spotted Flycatcher.

MUSCICAPA GRISOLA.

Muscicapa grisola, Linn. Syst. Nat. i. p. 328 (1766); Naum. ii. p. 216, Taf. 64, fig. 1; Hewitson, i. p. 74, pl. xxi. fig. 1; Gould, B. of E. ii. pl. 65; id. B. of Gt. Brit. ii. pl. 19; Newton, i. p. 220; Dresser, iii. p. 447, pl. 156; Oates, F. Brit. Ind. Birds, ii. p. 4; Sharpe, Cat. B. Br. Mus. iv. p. 151; Saunders, p. 157; Lilford, ii. p. 83, pl. 39.

Gobe-mouche gris, French; *Taralhão*, Portug.; *Papa-moscas*, Span.; *Piglia-mosche*, Ital.; *Graue Fliegenfänger*, Germ.; *Vliegenvanger*, Dutch; *Graa Fluesnapper*, Dan. and Norweg.; *Grå Flugsnappare*, Swed.; *Harmaa-kärpässieppaaja*, Finn.; *Saraya Mycholovka*, *Pienka*, Russ.

♂ *ad.* (England). Upper parts hair-brown, the feathers on the crown with dark centres; wings and tail darker, the inner secondaries margined with pale brown; under parts white, the breast washed with light brown; sides of the throat, breast, and flanks sparingly streaked with hair-brown; flanks tinged with yellowish buff; beak dark brown; legs blackish; iris hazel-brown. Culmen 0·52, wing 3·35, tail 2·5, tarsus 0·6 inch. Sexes alike. The young birds are profusely spotted with buffy white, the larger wing-coverts are broadly tipped with buff; under parts white, marked on the breast and throat with brown.

Hab. Europe generally, as far north as Lapland; Asia as far east as the valley of the Irkut, and rarely to Dauria, and in the Himalayas to Simla; wintering in the plains of India, and in Africa as far south as the Cape Colony.

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Very tame and confiding, it is one of our best known birds. It usually perches on a stick, fence, or bare bough, from whence it takes short flights after passing insects, returning to the same perch. It feeds on insects of various kinds, which it captures chiefly on the wing, but it has been known to eat berries in the autumn. Its note is a prolonged, somewhat melancholy *tshee* several times repeated, and it has no regular song. It breeds late in May or in June, placing its cup-shaped nest in a hollow tree, a hole in a wall, amongst creepers, or ivy, rarely in a bush. The nest is constructed of moss, rootlets, and grass-bents, lined with wool, hair, or feathers, and the eggs, 4 or 5 in number, are pale blue-green or sea-green with pale red or purplish red shell-markings and dark surface-blotches, and measure about 0·7 by 0·56.

378. Pied Flycatcher.

MUSCICAPA ATRICAPILLA.

Muscicapa atricapilla, Linn. Syst. Nat. i. p. 326 (1766); Hewitson, p. 75, pl. xxi. fig. 2; Gould, B. of Gt. Brit. ii. pl. 17; Newton, i. p. 229; Dresser, iii. p. 453, pl. 157, 158, fig. 2; Sharpe, Cat. B. Br. Mus. iv. p. 157; Saunders, p. 159; Lilford, ii. p. 89, pl. 41; *M. luctuosa* (Scop.), Ann. i. Hist. Nat. i. p. 146 (1769); Naum. ii. p. 231, Taf. 64, figs. 2–4.

Gobe-mouche noir, French; *Cerrojillo*, Span.; *Balia nera*, Ital.; *Schwarzgrauer Fliegenfänger*, Germ.; *Zwartgraauwe Vliegenvanger*, Dutch; *Broget Fluesnapper*, Dan.; *Svartochhvit Flugsnappare*, Swed.; *Mustankirjava-paamalintu*, Finn.; *Tschernogolovaya-Mycholovka*, Russ.

♂ *ad.* (Germany). Upper part, with sides of the head and neck, wings, and tail, deep black; a small frontal spot, a small alar speculum, broad margins to the inner secondaries, the outer web of outer tail-feathers, and the entire under parts pure white; bill and legs black; iris brown. Culmen 0·48, wing 3·05, tail 2·15, tarsus 0·7 inch. In the autumn the upper parts are more sooty brown in tinge, and the breast and flanks are slightly washed with buff. The female has the upper parts dark hair-brown, the margins to the secondaries narrower and the under parts dull white.

Hab. Europe generally, east to the Black Sea, north to the Vanger and Porsanger fiords, west to the Canaries; wintering in Africa as far south as the river Gambia. It breeds also, though somewhat locally, in England.

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Frequents groves and woods, especially where there are old trees, and is much more a forest-haunting bird than *M. grisola*, being but seldom found near human habitations. It feeds on insects, which it captures chiefly on the wing, and is said also to eat berries in the autumn. Its call-note is a soft *witt*, *witt*, and its song, which is short, somewhat melancholy in tone, and slightly resembles that of *Ruticilla phœnicurus*. It breeds in May and June, selecting a convenient hole in a tree, usually an old oak or beech, in which to place its nest, which is loosely constructed of rootlets, moss, and grass-bents, lined with wool, hair, or feathers. The eggs, from 4 to 6, rarely 7, in number, are delicate pale blue-greenish white, occasionally speckled with pale reddish brown, and measure about 0·67 by 0·52.

379. White-collared Flycatcher.

MUSCICAPA COLLARIS.

Muscicapa collaris, Bechst. Gemeinn. Naturg. Deutschl. iv. p. 495 (1795); Gould, B. of Gt. Brit. 11, pl. 18; Dresser, iii. p. 459, pl. 158, fig. 1; Sharpe, Cat. B. Br. Mus. iv. p. 160; Saunders, p. 160; *M. albicollis*, Temm. Man. d'Orn. p. 100 (1815); Naum. ii. p. 224, Taf. 65, figs. 1, 2, and 352, fig. 1.

Gobe-mouche à collier, French; *Balia*, Ital.; *Weisshalsiger Fliegenfänger*, German; *Hvidhalset Fluesnapper*, Dan.; *Halsbands Flugsnappare*, Swed.; *Mycholovka-Dieloscheyka*, Russ.

♂ *ad.* (Malta). Differs from *M. atricapilla* in having a white collar extending right round the neck; frontal patch and speculum larger; lower back greyish white and less white on the outer tail-feathers. Culmen 0·45, wing 3·15, tail 2·05, tarsus 0·65 inch. The female closely resembles that of *M. atricapilla*, but has, as a rule, the alar speculum rather larger, and the tarsus slightly shorter.

Hab. Central and Southern Europe, east to Asia Minor, straying rarely as far north as Denmark; wintering in N. Africa; of very doubtful occurrence in Great Britain.

In its general habits it does not differ from *M. atricapilla*, and like that bird places its nest in the hole of an old tree, and in May or early in June deposits 4 to 7 eggs, which resemble those of *M. atricapilla*, but are invariably unspotted, and somewhat paler in colour, and in size are about the same as those of *M. atricapilla*.

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380. Subsp. Muscicapa semitorquata.

Muscicapa semitorquata, E. F. von Homeyer, Zeitschr. gesammt. Orn. 1885, p. 185, Taf. x. ; Dresser, ix. p. 173.

♂ *ad.* (Turkey). Most nearly resembles *M. collaris*, but the white collar extends only half way round the neck, not meeting behind, and the two outer tail feathers are white, with a terminal black patch on the inner web. Culmen 0·4, wing 3·2, tail 2·0, tarsus 0·7 inch.

Hab. Southern Russia, the Caucasus, and east to Persia, occasionally straying as far west as Turkey.

I find nothing on record respecting the habits or nidification of this bird.

381. Red-breasted Flycatcher.

MUSCICAPA PARVA.

Muscicapa parva, Bechst. Gemeinn. Naturg. Deutschl. iv. p. 505 (1795) ; Naum. ii. p. 241, Taf. 65, fig. 3 ; Gould, B. of E. ii. pl. 64 ; id. B. of Gt. Brit. ii. pl. 20 ; Newton, i. p. 224 ; Dresser, iii. p. 465, pl. 159 ; Sharpe, Cat. B. Br. Mus. iv. p. 161 ; (Oates) F. Brit. Ind. Birds, ii. p. 9.

Gobe-mouche rougeâtre, French ; *Pigliamosche pettirosso*, Ital. ; *Kleiner Fliegenschnäpper*, German ; *Lille Fluesnapper*, Dan. ; *Lilla Flugsnappare*, Swed. ; *Malaya Mycholovka*, Russ.

♂ *ad.* (Germany). Crown, sides of head and neck, and nape ashy blue-grey, tinged with brown on the crown ; upper parts wood-brown, the upper tail-coverts blackish : wings brown, externally margined with fulvous, middle tail-feathers and the terminal third of the rest blackish, the basal portion white ; chin, throat, and upper breast rusty orange ; rest of the under parts white, flanks washed with warm buff ; bill brown above, brownish flesh below ; legs black ; iris dark brown. Culmen 0·45, wing 2·65, tail 2·15, tarsus 0·68 inch. The female has the upper parts as in the male, the crown similarly coloured to the back, and the under parts dull white, the lower throat, breast, and flanks washed with warm buff. The young male resembles the female, but has the under parts white, slightly tinged with buff on the breast, the flanks washed with warm buff.

Hab. Central and Southern Europe, rarely straying as far north as Southern Sweden and Great Britain ; Asia as far east as the Yenesei and Turkestan ; wintering in North Africa and India.

Frequents groves and woods, especially where beech- and fir-trees are intermingled, and is shy and secretive in its habits,

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usually frequenting the higher branches of large trees. It feeds on insects of various kinds, which it captures chiefly on the wing, and in the autumn to a small extent on berries. Its call-note is a soft *hvcet hvcet*, and its song, which is clear and sweet, resembles that of the Wood Wren, but is richer and fuller in tone, and may be heard from the early morn to sunset. Its nest, which is placed in the hole of a tree at from 8 to 10 feet from the ground, is constructed of moss, and scantily lined with hair, and the eggs, from 5 to 6, sometimes 7 in number, are deposited early in June, and are white, closely marked with dull light reddish buff or reddish grey, resembling dull, closely-marked eggs of *E. rubecula*, but are much smaller, measuring 0·7 by 0·5.

378. Subsp. Muscicapa albicilla.

Muscicapa albicilla, Pall. Zoogr. Ross. As. i. p. 462, Aves, tab. 1 (1811); Sharpe, Cat. B. Br. Mus. iv. p. 162; Oates, F. Brit. Ind. Birds, ii. p. 10; Tacz. F. O. Sib. O. p. 469; *M. leucura* (nec. Gmel.), Swains. Hist. Nat. Flyc. p. 253 (1838); (Jerd.) B. of Ind. i. p. 481.

Turra, Hind.; *Chut-ki*, Beng.

♂ *ad.* (India). Differs from *M. parva* in having the head and neck like the back, and not ashy blue, and the rufous orange is confined to the upper throat. Culmen 0·47, wing 2·7, tail 2·15, tarsus 0·75 inch. The female closely resembles that of *M. parva*.

Hab. Eastern Siberia and China; wintering in India as far west as Nepal and Dinapore, in Burma south to Tenasserim.

Does not differ from *M. parva* in its general habits, and also places its nest in the hole of a tree, usually at no great distance from the ground. The eggs resemble those of *M. parva*, but the ground colour is white, and the markings are usually collected round the larger end, leaving the rest of the egg unspotted.

379. Mugimaki Flycatcher.

MUSCICAPA LUTEOLA.

Muscicapa luteola (Pall.), Zoogr. Ross. As. i. p. 470 (1811); Middend Sib. Reis. ii. p. 186, Taf. 17, figs. 1–3; (Sharpe) Cat. B. Br. Mus. iv. p. 201; (Tacz.) F. O. Sib. O. p. 472; *M. mugimaki*, Temm. Pl. Col. iii. pl. 577, fig. 2 (1829); Temm. and Schlegel, Faun. Jap. Aves, p. 47, Taf. xvii. B.

♂ *ad.* (E. Siberia). Crown, nape, sides of head and neck, and upper parts generally dark slaty grey, nearly black; wings and tail blackish, the

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median and greater wing-coverts and the basal half of most of the outer tail-feathers pure white; behind the eye a white stripe; chin, throat, and breast rich orange, the flanks yellowish; rest of under parts white; bill black; legs brown; iris dark brown. Culmen 0·4, wing 3·1, tail 2·2, tarsus 0·6 inch. The female has the upper parts olive-brown, the larger wing-coverts tipped with white, and the under parts paler than in the male. The young are paler than the female, have the sides of the face grey, the cheeks more or less blackish, two buffy white bars across the wing, and the young female has no white at the base of the tail.

Hab. Eastern Siberia, migrating through Corea, Japan, and China; and wintering in the Malay peninsula and Borneo.

In habits it appears to resemble *M. parva*, but is much more silent, though it is said to have a pleasant song; it breeds in Eastern Siberia, placing its nest in a conifer tree at from 6 to 18 feet above the ground, well concealed. The nest is constructed of rootlets of fir-trees, moss, and lichens, and is carefully lined with moss, fine grasses, and hair. The eggs are in colour similar to those of *Cyanecula suecica*, olive green, dotted with pale red. In number they are usually 4, are deposited in the latter half of June, and measure about 0·65 by 0·48.

CYANOPTILA, Blyth, 1847.

380. Japanese Blue Flycatcher.

CYANOPTILA CYANOMELÆNA.

Cyanoptila cyanomelæna (Temm.), Pl. Col. iii. pl. 470 (1829); (Temm. and Schlegel), Faun. Jap. p. 47, pls. 16, 17D; (Sharpe), Cat. B. Br. Mus. iv. p. 251; David and Oust. Ois. Chine, p. 116, pl. 81; (Seebohm) B. Jap. Emp. p. 59; Tacz. F. O. Sib. O. p. 482.

Ōruri, Japanese.

♂ *ad.* (Japan). Crown, nape, and upper parts generally rich cobalt blue, the crown brighter blue; quills black, externally narrowly margined with blue; tail white on basal half, otherwise black, the outer webs of all but the middle feathers cobalt-blue; chin, throat, sides of neck and head, breast, and flanks deep black; rest of the under parts white; bill black; legs brown; iris dark brown. Culmen 0·62, wing 3·7, tail 2·6, tarsus 0·65 inch. The female has the upper parts olivaceous brown, the wings dark brown, with olivaceous margins, the tail brown, with warm olivaceous external margins, but with no white at the base, the throat, breast, and flanks dull brownish; a large spot on the throat and rest of the under parts white. The young male has the tail and wings like the old male, but rather

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paler, the rest of the plumage being as in the female, except that the lower back and rump are blue. The nestling is spotted and very like the young of *Muscicapa grisola*, but much darker.

Hab. Eastern Siberia, Manchuria, and Japan, passing through China on migration; and wintering as far south as Borneo.

Frequents woods and groves where conifers are intermingled with deciduous trees, and in its general habits resembles the true Flycatchers. Its song is said to be melodious and prolonged, and is usually uttered from the top of a tree. It breeds in the Ussuri country, where it arrives about the middle of May, and in Japan, placing its nest in a mossy bank; and its eggs, 5 in number, are greyish white with very faint darker markings at the larger end, and measure about 0·76 by 0·64.

XANTHOPYGIA, Blyth, 1847.

381. Narcissus Flycatcher.

XANTHOPYGIA NARCISSINA.

Xanthopygia narcissina (Temm.), Pl. Col. iii. pl. 577, fig. 1 (1838); (id. and Schlegel), Faun. Jap. Aves, p. 46, pls. 17, 17c; Sharpe, Cat. B. Br. Mus. iv. p. 249; Tacz. F. O. Sib. O. p. 479; Seebohm, B. Jap. Emp. p. 61.

♂ *ad.* (Japan). Crown, nape, sides of head and neck, wings, tail, and upper parts deep black; a large white patch on the wing-coverts; rump, lores, and a broad supercilium bright lemon-yellow; chin, throat, and breast bright orange-yellow; flanks lemon-yellow; rest of the under parts white; beak black, paler below; legs plumbeous; iris blackish brown. Culmen 0·51, wing 3·05, tail 1·95, tarsus 0·62 inch. The female is olive-brown above, tinged with greenish on the rump; under parts whitish, washed with yellow; supercilium yellowish white; wings brown, margined with rufous; tail rufous brown. The young bird has the upper parts dark brown, closely spotted with ochreous; wings and tail brown with fulvous margins, under parts white, the throat finely and the breast boldly spotted with brown.

Hab. The island of Saghalien and Japan, occurring on the east and south coasts of China on migration; and wintering in the Philippines; it is said to remain occasionally in Japan in the winter.

In its habits it is very shy and frequents the deep woods, especially those where there are old trees. Its song is melodious

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and pleasant though somewhat short, and it is a most industrious songster. It feeds on insects of various kinds, which, to a large extent, it captures on the wing. It breeds in Japan and the island of Saghalien, placing its nest in a hole of an old tree, and in June deposits from 4 to 6 eggs, which are pale greenish white somewhat sparingly spotted and blotched with pale red, and measure about 0·69 by 0·54.

382. Corean Flycatcher.

XANTHOPYGIA TRICOLOR.

Xanthopygia tricolor (Hartl.), Rev. Zool. 1845, p. 406; David and Oust. Ois. Chine, p. 118, pl. 80; Sharpe, Cat. B. Br. Mus. iv. p. 250; Tacz. F. O. Sib. O. p. 480; *X. leucophrys*, Blyth, J. A. S. B. xvi. p. 123 (1847).

♂ *ad.* (Corea). Differs from *X. narcissina*, merely in having the lores and supercilium white, not yellow, and the throat and breast lemon-yellow, not orange, and there is less white and more yellow on the abdomen. Culmen 0·5, wing 2·9, tail 1·95, tarsus 0·7 inch. The female resembles that of *X. narcissina*, but has the lores and supercilium dull white, not yellow.

Hab. Dauria, the Ussuri country, Mongolia, Corea, and North China; wintering in the Malay peninsula.

In habits it does not differ from *X. narcissina*, and like that species breeds in hollow trees. The nest is very loose, composed of rootlets and plant-bents, lined with finer bents, and the eggs, which are deposited early in June, vary considerably. The ground colour is white or pale creamy white, some being minutely dotted all over the surface with faint red, others again being boldly spotted or blotched with red, and in some the markings are collected round the larger end. In size they average about 0·64 by 0·52.

TERPSIPHONE, Gloger, 1827.

383. Indian Paradise Flycatcher.

TERPSIPHONE PARADISI.

Terpsiphone paradisi, (Linn.) Syst. Nat. i. p. 324 (1766); Gould, B. of Asia, ii. pl. 18; Sharpe, Cat. B. Br. Mus. iv. p. 346; Oates, F. Brit. Ind. Birds, ii. p. 45.

Shah Bulbul, Taklah, Doodhraj, Ind.

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♂ *ad.* (India). Head and neck glossy blue-black, crown feathers elongated; upper parts, wings, and outer tail-feathers bright fox-red, the inner secondaries white, with a long central black line, and tipped with black; middle rectrices much elongated, white, terminated with fox-red, or all fox-red; under parts below the throat white; bill lilac-blue; legs pale blue; iris dark brown. Culmen 1·0, wing 3·6, tail (except central rectrices) 4·7, central rectrices 7·8 longer, tarsus 0·7 inch. The old males, however, lose the fox-red on the upper parts, and have those parts and the tail pure white. The female has the upper parts light bay, the tail light chestnut, the middle rectrices not elongated as in the male, and the sides of the breast greyish, the flanks tinged with rufous. The young bird has the head dusky grey, tinged with rufous, the upper parts rather darker than the female, and the throat and breast greyish tinged with rufous.

Hab. Turkestan, Afghanistan, the Himalayas; India east to Nepal; Ceylon; resident throughout its range.

Frequents the forests and well wooded districts, being comparatively seldom seen in the open country, and is very partial to bamboo jungle. In its habits it is restless, and continually on the move from tree to tree. Its flight is undulating, and it has a curious appearance on the wing, its long tail moving in jerks. Its note is a harsh grating cry. It feeds on small flies and *Cicadellæ*, which it generally captures on the wing, though it sometimes picks them off a leaf or bough. It breeds both on the plains, and in the hills to an altitude of about 5,500 feet, placing its nest on a tree, usually at some height above the ground. The nest is cup-shaped, rather shallow, constructed of moss, rootlets, vegetable fibres, and fine grass, interwoven with cobwebs, lined with finer grass and sometimes horse-hairs. The eggs, from 4 to 5 in number, are pinky white or warm salmon-pink, more or less closely speckled, chiefly at the larger end, with bright brownish red spots, in size averaging about 0·81 by 0·6. They are deposited in May, June, or July.

384. Japanese Paradise Flycatcher.

TERPSIPHONE PRINCEPS.

Terpsiphone princeps (Temm.), Pl. Col. iii. pl. 584 (1836); Sharpe, Cat. B. Br. Mus. iv. p. 361; (David and Oust.) Ois. Chine, p. 113; Seebohm, B. Jap. Emp. p. 63; *Muscipeta principalis*, Temm. and Schlegel, Faun. Jap. p. 47, pl. 17E.

Sankocho, Jap.

♂ *ad.* (Japan). Head, neck, and breast glossy black, crown crested; upper parts generally purplish maroon, the quills blackish, externally

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margined with maroon-purple; tail black, slightly glossed with purple; flanks blackish; rest of under parts white; bill bluish, edge of the eyelid cobalt; iris blackish. Culmen 0·65, wing 3·72, tail 4·6, the middle rectrices 5·4 longer, tarsus 0·65 inch. The female resembles that of *T. incii*, but has the throat greyer and paler, and the black on the crown less extended.

Hab. Japan, the coasts of Southern China on migration; wintering in the Malay peninsula.

In general habits it does not differ from *T. paradisi*. It breeds commonly in Japan in June and July, placing its nest in the fork of a tree from 8 to 12 feet from the ground, and constructing it of dry grass, strips of bark and moss, interwoven with lichen or spiders' webs, and lined with fine moss-roots. The eggs, 4 to 5 in number, resemble the rufous variety of the eggs of *Lanius collurio*, but are not so round.

385. Chinese Paradise Flycatcher.

TERPSIPHONE INCII.

Terpsiphone incii (Gould), B. of Asia, ii. pl. 19 (1852); David and Oust. Ois. Chine, p. 112, pl. 82; Sharpe, Cat. B. Br. Mus. iv. p. 350; Bianchi and Berezovski, Ptitz. Kan-su, &c., p. 73.

Paê-liên, Hong-liên, Chinese.

♂ *ad.* (China). Differs from *T. paradisi* in having the upper parts, including the secondaries, much darker, rich chestnut-maroon, the tail similarly coloured; quills blackish, broadly margined with chestnut-maroon; inner secondaries chestnut-red, with a broad central black line; breast and flanks slate-grey, rest of under parts white; bill and eyelid cobalt blue; legs greenish; iris brown. Culmen 0·85, wing 4·1, tail 4·7, the middle rectrices 6·8 longer, tarsus 0·68 inch. The female has not the middle feathers elongated, is paler, and has a shorter crest. According to Messrs. David and Oustalet, the old males, like *T. paradisi*, assume a white plumage.

Hab. Manchuria and China, ranging south to the Malay peninsula and Sumatra.

In habits it is said to resemble *T. paradisi*, and in China it frequents the plains and low hills, not the mountains, and is often seen in gardens.

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PERICROCOTUS, Boie, 1826.

386. Ashy Minivet.

PERICROCOTUS CINEREUS.

Pericrocotus cinereus, Lafresn. Rev. Zool. viii. p. 94 (1845); Gould, B. of Asia, ii. pl. 11; David and Oust. Ois. Chine, p. 107; Sharpe, Cat. B. Br. Mus. iv. p. 83; Oates, F. Brit. Ind. Birds, i. p. 489; Seebohm, B. Jap. Emp. p. 106; Tacz. F. O. Sib. O. p. 462.

Shanshokui, Japanese.

♂ *ad.* (China). Forehead and fore-crown white; lores, and a line at the base of the bill, a line through the eye, hind crown, and nape deep black; upper parts generally slate-grey; wings and tail black, the former externally margined with slate-grey; external rectrix white on terminal half; chin, throat, and under parts white; bill and legs black; iris brown. Culmen 0·6, wing 3·85, tail 3·95, tarsus 0·7 inch. The female has the crown grey like the back, rather paler on the forehead, lores only black, and the breast and flanks tinged with pale slate-grey.

Hab. Eastern Siberia (the Bureja mountains and Ussuri country), Japan, and Corea; migrating through China to winter in Burma, the Malay peninsula, Borneo, Sumatra, and the Philippines.

Frequents the deciduous woods, and is shy and wary. After the breeding season it collects in flocks and frequents the tops of the oaks and other greenwood trees, making a hubbub that betrays its presence. Its note is said to resemble that of a Shrike. It breeds in Eastern Siberia, Corea, and Japan, in May, June, and July, placing its nest in a tree at from 10 to 20 feet from the ground, often quite at the end of a branch, and deposits 5 to 6 eggs, of which I have seen no authentic specimens.

387. Short-billed Minivet.

PERICROCOTUS BREVIROSTRIS.

Pericrocotus brevirostris (Vigors), P.Z.S. 1831, p. 43; (Gould) Cent. Himal. B. pl. 8; Hend. and Hume, Lah. to Yark. p. 184; Sharpe, Cat. B. Br. Mus. iv. p. 79; Oates, F. Brit. Ind. Birds, i. p. 483; Bianchi and Berezovski, Ptitz. Kan-su, p. 104; David and Oust. Ois. Chine, p. 104.

♂ *ad.* (Nepal). Head, neck, throat, upper breast and back, wings and middle rectrices glossy blue-black; remaining rectrices, rump, lower back, a broad band across the wing, and under parts rich deep crimson-vermilion;

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bill and legs black; iris dark brown. Culmen 0·45, wing 3·45, tail 4·01, tarsus 0·55 inch. The female has the forehead, lower back, rump, band across the wing, and under parts bright yellow, the rump rather duller; crown, nape, and back slate-grey slightly washed with apple-yellow; middle rectrices and base of the rest black, the terminal portion of the latter rich yellow.

Hab. The Himalayas from Eastern Kashmir to Assam, Upper Burma, Manchuria, Kan-su, N. China, frequenting the mountains in the summer, and wintering on the plains.

In habits it resembles its allies, and frequents woods and groves of non-evergreen trees. Its note is a silvery *ti-ti-ti*, and like its allies it feeds chiefly on insects of various kinds and their larvæ. It breeds in the mountains at an elevation of from 3,000 to 6,000 feet, in May and June, building a compact and delicate cup-shaped nest, pretty high up in an oak, rhododendron, or other deciduous tree. The nest is constructed of fine twigs, fir-needles, grass-roots, fine grass, and herbaceous plant-stems, interwoven and coated with cobwebs and lichens, without any lining. The eggs, 4 to 5 in number, are dull white, tinged with pink or pale green, richly and profusely blotched, spotted, and streaked, usually most densely towards the larger end, with brownish red and pale purple, and average about 0·76 by 0·57.

HIRUNDO, Linn., 1766.

388. The Swallow.

HIRUNDO RUSTICA.

Hirundo rustica, Linn. Syst. Nat. i. p. 343 (1766); Naum. vi. p. 49, Taf. 145, fig. 1; Gould, B. of E. ii. p. 54; Hewitson, i. p. 257, pl. lxv. figs. 3, 4; Gould, B. of Gt. Brit. ii. pl. 5; Newton, ii. p. 340; Dresser, iii. p. 477, pl. 160, fig. 1; Sharpe, Cat. B. Br. Mus. x. p. 128; Saunders, p. 163; Lilford, ii. p. 78, pl. 36.

Hirondelle de cheminée, French; *Andorinha*, Portug.; *Golondrina*, Span.; *Rondine*, Ital.; *Rauch-Schwalbe*, German; *Zwaluw*, Dutch; *Hussvale*, *Forstuesvale*, Dan.; *Ladesvale*, Norweg.; *Ladusvala*, Swed.; *Latopääskynen*, Finn.; *Kosatotchka*, Russ.; *Ababil*, Hindu; *Pyan-hlwa*, Burmese.

♂ *ad.* (Sweden). Forehead, chin, and throat chestnut; rest of the head and entire upper parts glossy steel-blue, the dorsal feathers white at the base, wings and tail black, glossed with bottle-green, all but the middle tail-feathers with a white patch towards the end of the inner web; across the

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lower throat a broad black band glossed with steely blue; rest of the under parts buffy white; bill and legs black; iris brown. Culmen 0·4, wing 4·8, tail 4·7, lateral rectrices extending about 2·75 beyond the middle ones, tarsus 0·45 inch. Sexes alike.

Hab. Europe generally; Asia as far east as the Yenesei valley and even Manchuria; wintering in Africa as far south as the Cape Colony, in India, Burma, the Malay peninsula, China, and the Philippines.

In its habits it is confiding and anything but shy, and, feeding entirely on insects, it is one of our most harmless and useful birds. Exceedingly agile and swift on the wing, it captures its prey in the air, flying in fine weather at a considerable altitude, or gliding near the ground when the weather is dull and damp. Its only note is a low twitter, which it utters when collected with others, and perched on a bare bough or a telegraph wire, or when at its nest. It commences nidification directly after arrival at its breeding-place, and will select the same place year after year if undisturbed. Its nest, which is cup-shaped, constructed of mud worked together with bits of straw, and profusely lined with feathers, is placed on the face of a rock or quarry, in a chimney, under the eaves of a roof, or on the beam of an outhouse, and it is extremely partial to buildings. The eggs, from 4 to 5 or 6 in number, are white, sparingly marked with purplish grey shell-markings, and more profusely scattered dark red surface spots and blotches, in size averaging about 0·75 by 0·55. Two broods are usually reared in the season.

389. Subsp. Hirundo gutturalis.

Hirundo gutturalis, Scop. Del. Flor. and Faun. Insubr. ii. p. 96 (1786); David and Oust. Ois. Chine, p. 124; Sharpe, Cat. B. Br. Mus. x. p. 134; Tacz. F. O. Sib. O. p. 173; Oates, F. Brit. Ind. Birds, ii. p. 277.

Ad. (Siberia). Differs from *H. rustica* only in having the black thoracic band narrower, and more or less interrupted in the middle. Culmen 0·4, wing 4·7, tail 3·6, tarsus 0·4; outer rectrices 1·8 inch longer than the middle ones.

Hab. Eastern Siberia as far north as Kamchatka; Japan, Mongolia, and China; wintering in Southern China, Burma, India as far west as Calcutta, the Indo-Malayan area, and has been obtained as far south as the north coast of Australia.

In habits and nidification it does not differ from *H. rustica*.

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390. Subsp. Hirundo erythrogastra.

Hirundo erythrogastra, Bodd. Tabl. Pl. Enl. p. 45 (1783); Sharpe, Cat. B. Br. Mus. x. p. 137; Ridgway, p. 461; Oates, F. Brit. Ind. Birds, ii. p. 279; *H. rufa*, Gmel. Syst. Nat. ii. p. 1018 (1788); Brewer, N. Am. Oolog. p. 91, pl. 5, figs. 63–67 (eggs); *H. horreorum*, Bartr. Fragm. Nat. Hist. p. 17 (1799); Baird, Brewer, and Ridg. Hist. N. Am. B. p. 339, pl. 16, fig. 9.

♂ *ad.* (N. America). Differs from *H. rustica* in having the thoracic band interrupted, and in having the under parts below the band pale rufous. Culmen 0·4, wing 4·7, tail 3·6, tarsus 0·42 inch.

Hab. North-Eastern Siberia, migrating through Mongolia; wintering in Burma and Southern China; N. America as far north as Alaska, south to Southern Brazil; a straggler to Greenland.

In habits and nidification it does not differ from *H. rustica*.

391. Subsp. Hirundo savignii.

Hirundo savignii, Steph. Gen. Zool. x. p. 90 (1817); Dresser, iii. p. 473, pl. 160, fig. 2; Sharpe, Cat. B. Br. Mus. x. p. 133; *H. cahirica*, Licht. Verz. Doubl. p. 58 (1823); *H. riocouri*, Audouin, Descr. de l'Egypte, p. 270, pl. 4, fig. 4 (1825).

♂ *ad.* (Egypt). Differs from *H. rustica* in having the under parts deep chestnut, and the markings on the tail rufous white; the thoracic band is, however, continuous as in *H. rustica*. Culmen 0·4, wing 4·7, tail 4·3, tarsus 0·45 inch.

Hab. The valley of the Nile, where it is resident, and Palestine.

In habits it does not differ from *H. rustica*, and its nest and eggs are similar to those of that species. In Egypt it breeds from January to April.

392. Subsp. Hirundo tytleri.

Hirundo tytleri, Jerdon, B. of Ind. iii. App. p. 870 (1864); Sharpe, Cat. B. Br. Mus. x. p. 140; Oates, F. Brit. Ind. Birds, ii. p. 278.

♂ *ad.* (Siberia). Has the under parts chestnut-red, nearly as dark as *H. savignii*, but the thoracic band is interrupted as in *H. erythrogastra*. Culmen 0·4, wing 4·8, tail, 4·0, tarsus 0·45 inch.

Hab. Eastern Siberia from Kamchatka west to Irkutsk; wintering in Burma.

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In habits it does not differ from its allies, and indeed all the three preceding species as well as the present one so intergrade with each other and *H. rustica* that intermediate specimens are always to be found in a series, and they can only be looked on as very closely allied subspecies. In the British Museum are examples of *Hirundo erythrogastra* from Brazil and Pará which are absolutely undistinguishable from specimens of *H. tytleri* from Siberia.

393. Red-rumped Swallow.

HIRUNDO RUFULA.

Hirundo rufula, Temm. Man. iii. p. 298 (1835); Naum. xiii. p. 209, Taf. 383, fig. 4; Dresser, iii. p. 487, pl. 161; Gould, B. of Asia, i. pl. 27; Sharpe, Cat. B. Br. Mus. x. p. 156; Oates, F. Brit. Ind. Birds, ii. p. 284; *H. scullii*, Seebohm, Ibis, 1883, p. 167; Sharpe, tom. cit. p. 158.

Hirondelle rousseline, French; *Rondine forestiera*, Ital.; *Alpen-Schwalbe*, German.

♂ *ad.* (Asia Minor). Crown, back, and scapulars deep black glossed with steel-blue; nape, hind neck, sides of the neck and rump rusty red, the last paling almost to white on the shorter tail-coverts; wings, tail, and longer tail-coverts black, slightly glossed with steel-blue; under parts white washed with pale rufous buff on the breast, flanks, and abdomen, the whole under parts very finely streaked with black; bill blackish; legs dark brown; iris blackish brown. Culmen 0·32, wing 4·8, tail 4·15, tarsus 0·55 inch. Sexes alike.

Hab. Southern Europe as far west as Italy and Sicily, ranging east through Asia Minor and Palestine to Persia, Afghanistan, and Turkestan. In winter it occurs as far south as Abyssinia, and it has strayed on one occasion at least as far north as Heligoland, and has occurred in Malta.

In habits it much resembles *H. rustica*, and like that species captures its insect food almost entirely on the wing. Its note is said to differ slightly from that of the Common Swallow, and it differs widely in its mode of nidification, for it constructs a retort-shaped nest of mud with a funnel-shaped entrance, and lines it with grass and feathers. The nest is attached to the under side of the roof of a cave or vault, and this species never nests in colonies, but singly. It breeds commonly in South-east Europe and Palestine. The eggs, from 4 to 5 in number, are pure white, unspotted, and measure about 0·80 by 0·55.

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394. Subsp. Hirundo daurica.

Hirundo daurica, Linn. Mantissa, p. 528 (1771); Sharpe, Cat. B. Br. Mus. x. p. 159; Oates, F. Brit. Ind. Birds, ii. p. 282; (Tacz.) F. O. Sib. O. p. 182; *H. alpestris*, Pall. Reis. Russ. Reichs, ii. App. No. 19 (1771–76); Naum. xiii. p. 209, pl. 383, fig. 3; (Gould) B. of Asia, i. pl. 28.

Lastotchka daurskaya, Russ.

♂ *ad.* (Siberia). Differs from *H. rufula* in having the black on the head joined to the back, and not separated by the rufous collar, the lower back and rump cinnamon-rufous with a few indistinct blackish lines, and the under wing-coverts more rufous in tinge. Culmen 0·4, wing 5·0, tail 4·7, tarsus 0·55 inch.

Hab. Siberia from the Irtisch to Dauria and the Ussuri country, Mongolia, Kan-su and Ordos, China, Assam; somewhat rare in Corea.

In habits it does not differ from *H. rufula*, and like that species builds a retort-shaped nest of mud lined with wool, hair, or feathers, and deposits 4 to 6 white eggs.

395. Subsp. Hirundo striolata.

Hirundo striolata, Temm. and Schlegel, Faun. Jap. Aves, p. 33 (1850); Oates, F. Brit. Ind. Birds, ii. p. 281; *H. japonica*, Bp. Consp. Gen. Av. i. p. 340 (1850); Temm. and Schlegel, op. cit., p. 33, pl. 11; (David and Oust.) Ois. Chine, p. 127; Sharpe, Cat. B. Br. Mus. x. p. 162.

♂ *ad.* Differs from *H. rufula* in having the rufous collar interrupted on the nape, the black on the head joining that on the mantle; rump chestnut with distinct black shafts; lores black; under parts coarsely streaked with black, and the under tail-coverts with the terminal halves black. Culmen 0·4, wing 4·9, tail 4·0, tarsus 0·6 inch.

Hab. Japan and China; wintering in Burma, and as far south as the island of Flores.

In habits and nidification it does not differ from *H. rufula*, indeed both the present form and *Hirundo daurica* can only be looked on as subspecies, as specimens occur which intergrade, though the extreme forms are readily separable.

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CHELIDON, Boie, 1822.

396. House-Martin.

CHELIDON URBICA.

Chelidon urbica (Linn.), Syst. Nat. i. p. 344 (1766); (Naum.), vi. p. 75, Taf. 145, fig. 2; (Gould) B. of E. ii. pl. 57; id. B. of Gt. Brit. ii. pl. 6; Hewitson, i. p. 261, pl. lxv. fig. 2; Newton, ii. p. 349; Dresser, iii. p. 495, pl. 162; Sharpe, Cat. B. Br. Mus. x. p. 87; Oates, F. Brit. Ind. ii. p. 269; Saunders, p. 165; Lilford, ii. p. 80, pl. 37.

Hirondelle de fenêtre, French; *Andorhina*, Portug.; *Avión*, Span.; *Rondine comune*, Ital.; *Haus-Schwalbe*, German; *Huiszwaluw*, Dutch; *Marsvale*, Dan.; *Tagsvale*, Norw.; *Hussvala*, Swed.; *Räystäspääskynen*, Finn.; *Lastotchka Gorodskaya*, Russ.

♂ *ad.* (England). Head, nape, back, and scapulars glossy blue-black; rump, upper tail-coverts (except those nearest to the tail, which are black), and entire under parts white; wings and tail black, slightly glossed with steel-blue; tarsus and toes feathered; bill black; iris blackish brown. Culmen 0·35, wing 4·25, tail 2·65, tarsus 0·45 inch; outer rectrices 0·85 longer than the middle ones. Sexes alike. The young bird is duller in colour, brownish with but little gloss where the old bird is black, has but a trace of the pectoral collar, and the under parts are dull white.

Hab. Europe, as far north as the South Varanger and Porsanger fiords, ranging east to Turkestan and west to the Canaries and Madeira; wintering as far south as Central Africa and North-West India.

Like the Swallow it spends most of its time, during the day, on the wing, and captures its insect food in flight. It does not appear, however, to be quite so strong on the wing as that species, though quite as graceful. It usually arrives at its breeding-place a few days later than the Swallow, and if undisturbed will occupy the same nesting-place year after year. Its note is a low twitter, which, during the breeding season, is continued till it constitutes a sort of warble. The nest is placed under the eaves of a roof, in the upper corner of a window or on the face of a sheltered rock, and like that of the Swallow is constructed of mud mixed with short straws, and lined with hair, wool, or feathers, but instead of being open is built right up, having an entrance hole on the sheltered side. The eggs, which are usually deposited in June, 4 or 5 in

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number, are pure white, rather elongated in shape, tapering towards one end, and average about 0·75 by 0·55. Two broods are raised in the season, and, exceptionally, three.

397. Subsp. Chelidon lagopoda.

Chelidon lagopoda (Pall.), Zoogr. R. As. i. p. 532 (1811); Tacz. F. O. Sib. O. p. 184; David and Oust. Ois. Chine, p. 130; *C. lagopus*, Sharpe, Cat. B. Br. Mus. x. p. 93; Oates, F. Brit. Ind. Birds, ii. p. 270.

♂ *ad.* (Siberia). Differs from *C. urbica* in having all the upper tail-coverts white, the under wing-coverts and axillaries are much darker and the tail is only slightly forked. Culmen 0·32, wing 4·4, tail 2·15, tarsus 0·45 inch; outer rectrices 0·35 longer than the middle ones.

Hab. Siberia from the valley of the Yenesei to Dauria; N. China, Manchuria, Mongolia, and Turkestan; wintering in South China and Burma.

In habits it does not differ from *C. urbica*, and makes a nest like the nest of that species, but differing somewhat in the form of the entrance hole. The eggs, which are pure white, are undistinguishable from those of *C. urbica*. When on the wing the present species is said to utter a harsh note like that of *Cotile riparia*.

398. Subsp. Chelidon cashmiriensis.

Chelidon cashmiriensis, Gould, P.Z.S. 1858, p. 356; David and Oust. Ois. Chine, p. 539; Sharpe, Cat. B. Br. Mus. x. p. 90; Oates, F. Brit. Ind. Birds, ii. p. 269; Giglioli, Faun. Ital. p. 187.

♂ *ad.* (Himalayas). Differs from *C. urbica* in being somewhat smaller and in having the tail less forked. Culmen 0·3, wing 4·0, tail, 2·1, tarsus 0·5 inch; outer rectrices only, 0·25 longer than the middle ones.

Hab. The Himalayas from Kashmir to Sikhim, Mongolia; wintering on the plains of India. Is said to have occurred once in Italy.

In habits it does not differ from *C. urbica*, of which it is a closely allied subspecies. It breeds in the Himalayas and Kan-su, building a low cup-shaped nest of mud, with a largish aperture, and depositing 4 to 5 white eggs, which closely resemble those of *C. urbica*.

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399. Black-chinned Martin.

CHELIDON DASYPUS.

Chelidon dasypus, Bp. Consp. i. p. 343 (1850); Sharpe, Cat. B. Br. Mus. x. p. 91; Seebohm, B. Jap. Emp. p. 144; *C. blakestoni*, Swinhoe, P.Z.S. 1862, p. 320; id. Ibis, 1874, p. 152, pl. vii. fig. 1.

Iwamaki-tsubame, Jap.

♂ *ad.* (Japan). Differs from *C. urbica* in having the black carried down much lower below the eye, and in having the chin black, the under parts greyish white, and the tail nearly square. Culmen 0·32, wing 4·2, tail 1·9, tarsus 0·45 inch; outer rectrices barely 0·2 longer than the middle ones.

Hab. Japan; wintering in Borneo.

In habits it agrees closely with its allies, and like them builds a nest of mud, which it places under the eaves of a roof or on ledges of cliffs, and deposits 4 to 5 pure white eggs which are undistinguishable from those of *C. urbica*.

COTILE, Boie, 1822.

400. Sand-Martin.

COTILE RIPARIA.

Cotile riparia (Linn.), Syst. Nat. i. p. 344 (1766); (Wilson) Am. Orn. v. p. 46, pl. 38, fig. 4; (Audub.) B. of Am. i. pl. 385; (Naum.) vi. p. 100, Taf. 146, figs. 3, 4; (Gould) B. of E. ii. pl. 58; id. B. of Gt. Brit. ii. pls. 7, 8; Hewitson, i. p. 264, pl. lxv. fig. 1; Newton, ii. p. 355; Dresser, iii. p. 505, pl. 163; Sharpe, Cat. B. Br. Mus. x. p. 96; Ridgw. p. 463; Saunders, p. 167; Lilford, ii. p. 82, pl. 38.

Hirondelle de rivage, French; *Pedreirinho*, Portug.; *Golondrina de ribera*, Span.; *Topino*, Ital.; *Uferschwalbe*, German; *Zandzwaluw*, Dutch; *Digesvale*, Dan.; *Strandsvale*, Norw.; *Backsvala*, Swed.; *Rantapääskynen*, Finn.; *Beregovoistrichok*, Russ.

♂ *ad.* (England). Upper parts hair-brown, rather paler on the rump and darker on the crown; wings and tail dark brown; a brown band across the upper breast, and flanks washed with pale brown; rest of the under parts white; a small tuft of buffy feathers above the hind toe; bill black; legs dark brown; iris brown. Culmen 0·3, wing 3·95, tail 3·15, tarsus 0·45 inch; tail forked, the outer rectrices 0·35 longer than the

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middle ones. The young bird has the upper parts browner, most of the feathers margined with fulvous, chin washed with pale rusty buff, and the sides of the throat slightly tinged with the same colour.

Hab. Europe generally, in Scandinavia as far north as the Porsanger and Varanger fiords, wintering in Africa as far south as the Transvaal; Asia, as far north and east as Kamchatka, wintering in Burma, India, S. China, and the Philippines; America from the Mackenzie river and Alaska south throughout the United States, wintering in Cuba, Jamaica, Central America, etc., south to Brazil.

In general habits it resembles other Martins, but differs wholly in its nesting places. Its food consists of small insects, which it usually captures on the wing, and will frequently pick one from the surface of water when skimming over it. Its note is a somewhat harsh *scheer*, which in the spring it modulates into an apology for a song. It nests in holes bored in river banks, old gravel pits, or in earth banks, or occasionally it will make use of a hole in an old wall. In a chamber at the end of its hole it forms a loosely-made nest of dry grass and feathers, never making a nest of clay. In May or June, 4 to 5 oval elongated pure white eggs are deposited, which in size average about 0·83 by 0·51. Two broods are usually raised in the season.

401. Subsp. Cotile sinensis.

Cotile sinensis (Jerd.), Madr. Journ. xi. p. 238 (1840); David and Oust. Ois. Chine, p. 128; Sharpe, Cat. B. Br. Mus. x. p. 104; Oates, F. Brit. Ind. Birds, ii. p. 273; Tacz. F. O. Sib. O. p. 188; *Hirundo chinensis*, Gray, Illustr. Ind. Zool. i. pl. 35, fig. 3 (1830-32).

Abali, Hindu; *Nakuti*, Beng.

♂ *ad.* (India). Differs from *C. riparia* in having no collar across the breast and no tuft of feathers above the hind toe; chin, throat, breast, sides of the head and neck pale grey; rest of the under parts white. Culmen 0·25, wing 3·4, tail 1·8, tarsus 0·35 inch.

Hab. The Himalayas down to Bombay, where it is resident, ranging east to the Ussuri country in Manchuria; wintering in Southern China, Burma, Siam, and the Philippines.

In habits and nidification it does not differ from *C. riparia*, and like that species deposits 4 to 5 pure white eggs, which in size average about 0·68 by 0·5.

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402. Crag-Martin.

COTILE RUPESTRIS.

Cotile rupestris, Scop. Ann. i. Hist. Nat. p. 167 (1769); (Naum.) vi. p. 91, Taf. 146, figs. 1, 2; (Gould), B. of E. ii. pl. 56; Dresser, iii. p. 513, pl. 164; Sharpe, Cat. B. Br. Mus. x. p. 109; Oates, F. Brit. Ind. Birds, ii. p. 274.

Hirondelle de rocher French; *Andorinha das rochas*, Portug.; *Golondrina sylvestre*, Span.; *Rondine montana*, Ital.; *Gornui strichok*, Russ.

♂ *ad.* (Asia Minor). Upper parts mouse-brown, rather darker on the crown; wings and tail dull brown; all the rectrices except the two middle, and the outermost on each side with a large oval white spot on the inner web; throat and breast dirty white with a few dull brown streaks on the chin and upper throat; rest of under parts rusty ash-brown; under tail-coverts darker ashy brown; bill dark horn; feet brown; iris dark brown. Culmen 0·48, wing 5·25, tail 2·25, tarsus 0·45 inch. Sexes alike. The young has the upper parts darker, the back and scapulars margined with dull rufous, the secondaries edged with white, the upper tail-coverts with dull white margins, and the under parts duller.

Hab. Southern Europe; North Africa; ranging through Asia Minor east in Asia, to the Himalayas, Tibet, Mongolia, and N. China, and is resident almost throughout its range.

In general habits it does not differ much from its allies, and like them feeds on insects which it captures on the wing. Its flight is more fluttering, and less direct than that of the Swallow, and it frequently rests, perching on the dead branch of a tree or on a cliff. It frequents mountain gorges though not at great altitudes. Its note is a low *ch* or *chih*. It breeds late in May placing its nest in the roof of a cave and is not gregarious, more than one or two nests being seldom found in the same cave. The nest is a shallow cup of mud open at the sides, rather small for the size of the bird, and is lined with wool, thistle-down, and feathers. The eggs, 5 or 6 in number, resemble pale varieties of those of *H. rustica*, being white profusely spotted, chiefly at the larger end, with pale greyish brown surface-spots and a few indistinct shell-markings.

403. Pale Crag-Martin.

COTILE OBSOLETA.

Cotile obsoleta Cab. Mus. Hein. i. p. 50 (1850); Dresser, iii. p. 521, pl. 165; Sharpe, Cat. B. Br. Mus. x. p. 111; Oates, F. Brit. Ind. Birds, ii. p. 275; Giglioi, Avif. Ital. p. 190.

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♂ *ad.* (Egypt). Differs from *C. rupestris* in being smaller and much paler, the upper parts pale greyish sandy brown, the under parts creamy white, almost pure white on the chin and upper throat; flanks, lower abdomen, and under tail-coverts washed with dull rufous brown. Culmen 0·35, wing 4·5, tail 2·1, tarsus 0·45 inch. Sexes alike.

Hab. Palestine, Egypt, Nubia, S. Arabia, east to Sind, and is said to have occurred twice in Italy.

In habits it does not differ from *C. rupestris*, but it is frequently found in the desert and in N. Africa in the mountains to an elevation of from 11,000 to 12,000 feet. Its flight is swift though at times irregular. It breeds as early as March and places its cup-shaped nest in tombs, mosques, or other buildings in the desert, or in cracks in the rocks under overhanging precipices, or in caves, and the eggs are white, closely spotted with reddish brown.

CARDUELIS, Briss., 1760.

404. GOLDFINCH.

CARDUELIS ELEGANS.

Carduelis elegans, Steph. in Shaw's Gen. Zool. xiv. p. 30 (1826); Gould, B. of E. iii. pl. 196; id. B. of Gt. Brit. iii. pl. 36; Hewitson, i. p. 126, pl. l. fig. 1; Newton, ii. p. 117; Dresser, iii. p. 527, pl. 166; Saunders, p. 173; Lilford, iv. p. 53, pl. 26; *Fringilla carduelis*, Linn. Syst. Nat. i. p. 318 (1766); Naum. v. p. 126, Taf. 124, figs. 1, 2; (Sharpe), Cat. B. Br. Mus. xii. p. 185; *C. major*, Tacz. P.Z.S. 1879, p. 672.

Chardonneret, French; *Pintasilgo*, Portug.; *Gilguero*, Span.; *Cardellino*, Italian; *Stieglitz*, *Distelfink*, German; *Distelvink*, Dutch; *Stillids*, Dan. and Norw.; *Steglits*, Swed.; *Tiklivarpunen*, Finn.; *Shtchegol*, Russ.

♂ *ad.* (England). Feathers at the base of the bill, lores, hind crown, nape, and a crescentic line passing to the sides of the neck black; forecrown, upper throat, and the space to behind the eye rich scarlet; cheeks, and a narrow nuchal line white; back, scapulars, and rump warm wood-brown; upper tail-coverts greyish white, but black at the base; wings black but the larger wing-coverts and the basal half of the outer web of most of the quills rich gamboge, most having a white spot at the tip; tail black, the middle feathers tipped with white, the outer with an oval white spot near the end of the inner web; under parts white washed with brown on the breast and flanks; bill whitish with the tip dark; legs

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dull flesh; iris dark brown. Culmen 0·5, wing 3·15, tail 2·1, tarsus 0·6 inch; tail slightly forked. The female resembles the male but is duller in colour and the lesser wing-coverts are brown. The young lack the red on the head, are greyish brown above, have the quills tipped with brownish buff and the chin and throat are white.

Hab. Europe generally, chiefly resident: Scandinavia as far north as the Trondhjem Fjord; North Africa, Canaries, Madeira; Asia as far east as Krasnoyarsk; wintering in Turkestan and Africa.

Frequents gardens, orchards, and groves, and is not a forest bird but is frequently seen in the open country, especially in the autumn and winter. In its general habits it is sprightly and active, and being an incessant songster is a favourite cage bird. It feeds chiefly on seeds, especially those of the thistle and other weeds, but the young are generally fed on insects. Its call-note is a sharp *pick, pick, pickelmik*, and its song though agreeable is not so good as that of the Linnet. It breeds in May, building a very neat cup-shaped nest of moss, lichens, and fine roots carefully lined with plant-down and horsehair, usually placed on a low tree or a bush. The eggs 4 to 5 in number are greenish white with faint reddish shell-markings, and dark reddish brown blotches and streaks, which are more numerous at, and often form a zone round, the larger end. In size they average about 0·7 by 0·48.

The Goldfinch is subject to some variation, the best known being the white-chinned variety, or so-called "Cheverel" (cf. Newton, *l.c.*).

405. Asiatic Goldfinch.

CARDUELIS CANICEPS.

Carduelis caniceps, Vigors, P.Z.S. 1831, p. 23; Gould, Centr. Himal. B. pl. 33, fig. 1; Tacz. F. O. Sib. O. p. 635; Oates, F. Brit. Ind. Birds, ii. p. 225; Sharpe, Cat. B. Br. Mus. xii. p. 189; Dresser, ix. p. 177, pl. 670; *C. orientalis* (Eversm.) Add. Pall. Zoogr. fasc. ii. p. 9 (1841); Gould, B. of Asia. v. pl. 17.

Shira, Hindu.; *Saira*, Kashm.;

♂ *ad.* (Siberia). Differs from *C. elegans* in having the upper parts paler and greyer, in lacking the black on the head, the hind-crown and nape being like the back in colour, and there is a broad white line on the inner secondaries. Culmen 0·65, wing 3·3, tail 2·2, tarsus 0·6 inch.

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Hab. Siberia from Krasnoyarsk to Lake Baikal (where it is of rare occurrence); Transcaspia, Afghanistan, Turkestan, and the Himalayas.

In habits it does not differ from *C. elegans* and nothing is known respecting its nidification. Where it meets *C. elegans* or rather its eastern form (*C. major*), which is rather larger and whiter, the two species appear to interbreed freely.

PROCARDUELIS, Hodgs., 1844.

406. Nepal Rose Finch.

PROCARDUELIS NEPALENSIS.

Procarduelis nipalensis, (Hodgson), As. Research. xix. p. 157 (1836); Sharpe, Cat. B. Br. Mus. xii. p. 182; Oates, F. Brit. Ind. Birds, ii. p. 223; Bianchi and Berezovski, Ptitz. Gan-su, p. 133.

Ka-biya, Lepch.

♂ *ad.* (Sikhim). Forehead and fore-crown deep rosy red; upper parts, wings, tail, and breast blackish brown tinged with red, the breast-feathers with rosy vinaceous margins; supercilium, chin, throat, and abdomen rosy red; flanks dark brown tinged with red; under tail-coverts dark brown margined with pale pink; bill dusky, paler below; legs fleshy brown; iris dark brown. Culmen 0·5, wing 3·55, tail 2·6, tarsus 0·85 inch. The female has the upper parts, wings, and tail brown, the feathers more or less margined with ochraceous, the under parts, sides of head and neck ochraceous brown.

Hab. Himalayas from Kashmir to Bhutan at elevations of from 6,000 to 10,000 feet, according to season; South-west Kan-su.

It is said to be usually found in small flocks and is not shy. Nothing appears to be on record respecting its nidification. *Procarduelis rubescens*, Blanf., is also said to occur in S.W. Kan-su.

CHRYSOMITRIS, Boie, 1828.

407. Siskin.

CHRYSOMITRIS SPINUS.

Chrysomitris spinus, (Linn.) Syst. Nat. i. p. 322 (1766); (Naum.) v. p. 155, Taf. 125; (Hewitson), i. p. 198, pl. l. fig. 2; (Gould), B. of E. iii. pl. 197; id. B. of Gt. Brit. iii. pl. 37; (Newton), ii. p. 126; Dresser, iii. p. 541, pl. 169; Sharpe, Cat. B. Br. Mus. xii. p. 212; Saunders, p. 175; (Lilford), iv. p. 55, pl. 27.

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Tarin, French; *Lugne*, Portug.; *Lugano*, Span.; *Lucarino*, Ital.; *Zeisig*, German; *Sijsje*, Dutch; *Grönsidsken*, Dan.; *Sisik*, Norw.; *Grönsiska*, Swed.; *Viheriävarpunen*, Finn.; *Tschij*, Russ.

♂ *ad.* (Scotland). Upper parts dull yellowish green streaked with blackish brown; upper tail-coverts yellow except those nearest the tail which are greenish; crown, chin, and lores black; wings black, the quills margined and the wing-coverts tipped with yellow; tail-feathers yellow at the base and on the inner webs, the middle pair nearly all black, all the rest black towards the tips; sides of the head, supercilium, throat, and breast yellow; rest of the under parts dull white, streaked with blackish, the lower breast washed with yellow, the flanks with grey; bill dark brown, pale fleshy at the base; legs dull brown; iris dark brown. Culmen 0·45, wing 2·8, tail 1·85, tarsus 0·5 inch. The female is duller in colour, the black on the crown and throat are wanting.

Hab. Europe, as far north as, but rare in, southern Lapland; Asia as far east as Japan, ranging south through Manchuria to China, but not so far as India; of somewhat rare occurrence in N.W. Africa in winter.

Frequents woods, chiefly those of conifers, and affects hilly localities. In its habits it is sprightly and lively but not shy. In winter it frequents groves, gardens, and fields, and is then seen in large flocks. Its food consists of seeds, especially those of conifers, and of various weeds, but the young when in the nest are fed with insects. Its call-note is a loud *deedel*, or *deedlee*, and its song, a succession of twittering notes, though not loud, is fairly melodious. It breeds from April to June, placing its nest on a conifer tree, often at a considerable altitude, but sometimes on a bush, always well concealed. The nest is neat, cup-shaped, constructed of grass-bents, fine twigs, rootlets, and moss, carefully lined with plant-cotton, and occasionally a few feathers. The eggs 4 to 5, sometimes 6 in number, are pale sea-green spotted with pale red, the markings being usually more profuse at the larger end, and in size average about 0·68 by 0·48.

408. Himalayan Siskin.

CHRYSOMITRIS SPINOIDES.

Chrysomitris spinoides (Vigors), P.Z.S. 1831, p. 44; (Gould), Cent. Him. B. pl. 33, fig. 2; Sharpe, Cat. B. Br. Mus. xii. p. 201; (Oates) F. Brit. Ind. Birds, ii. p. 231.

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♂ *ad.* (Himalayas). Crown, nape, and back deep chocolate; rump yellow; quills blackish, the secondaries with greyish margins; primaries with the base of outer web yellow forming a large speculum; larger wing-coverts deep chocolate tipped with yellow; median coverts yellow, lesser ones deep chocolate; middle tail-feathers blackish, the outer ones yellowish on outer web, white on the inner, broadly tipped with black; ear-coverts and a long streak from the base of the lower mandible deep chocolate; supercilium, lores, throat, and a band nearly meeting on the nape, together with the entire under parts bright yellow; bill fleshy, dusky at tip; legs brownish fleshy; iris brown. Culmen 0·4, wing 3·2, tail 1·10, tarsus 0·65 inch. The female is much duller, has less yellow in the plumage, and the dark upper parts are tinged with green.

Hab. Himalayas from Kashmir to Sikhim; Manipur; east to Szechuen.

Inhabits the mountains up to about 9,000 feet. It breeds in July or August, its nest being placed on the branch of a tree, and constructed of fine grass, hair, and moss, and its 3 eggs are pale green speckled with black, and measure about 0·69 by 0·52.

409. Tibetan Siskin.

CHRYSOMITRIS THIBETANA.

Chrysomitris thibetana, Hume, Ibis, 1872, p. 107; Sharpe, Cat. B. Br. Mus. xii. p. 226, pl. iii; Oates, F. Brit. Ind. Birds, ii. p. 232.

♂ *ad.* (Sikhim). Upper parts olive-green, the back and scapulars streaked with blackish; ear-coverts, and a broad moustachial streak olive-green; supercilium, below the eye joining the supercilium behind the ear-coverts, and under parts generally dull yellow, the flanks greener and streaked with brown. Culmen 0·4, wing 2·7, tail 1·6, tarsus 0·5 inch. The female has the under parts pale yellow and is streaked with brown.

Hab. The Himalayas in the interior of Sikhim on the borders of Tibet.

Inhabits high elevations, but I find no record of its habits or nidification.

410. Citril Finch.

CHRYSOMITRIS CITRINELLA.

Chrysomitris citrinella (Linn.), Syst. Nat. i. p. 320 (1766); (Naum.) v. p. 148, pl. 124, figs. 3, 4; (Gould) B. of E. iii. pl. 198; Dresser, iii. p. 535, pl. 168; Sharpe, Cat. B. Br. Mus. xii. p. 230.

Venturon alpin, French; *Venturone*, Ital.; *Citronenzeisig*, German.

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♂ *ad.* (Baden). Crown, space round the bill as far as the eye, throat, under parts, rump, and upper tail-coverts yellowish apple-green; nape, hind-neck and its sides slaty blue; back dull green, with dusky streaks; wings and tail blackish externally with narrow yellow margins, the former with a greenish yellow band across; flanks slaty grey; bill dark purplish blue; legs fleshy brown; iris dark brown. Culmen 0·4, wing 3·15, tail 2·45, tarsus 0·6 inch. The female is rather duller, has less yellow on the head, the back is brownish grey, and the under parts paler, the breast slaty blue intermixed with apple-green.

Hab. The mountains of central and southern Europe, not occurring in Great Britain, wintering at lower levels; is said to occur, though rarely, in Algeria.

In habits it much resembles the Siskin, and like that species affects conifer in preference to deciduous trees, and its nest is almost always placed on a fir-tree. Its flight resembles that of the Goldfinch, but it is swifter. Its usual note is a somewhat melancholy twitter, but its song is clear and sweet somewhat resembling that of the Siskin. It feeds almost entirely on small seeds. Its nest, which is usually placed on the bough of a fir-tree is rather larger than, but not quite so neat as that of the Serin Finch, is constructed of rootlets, grass-bents, and moss, neatly lined with very fine rootlets intermixed with a little thistle-down and wool. The eggs, 4 to 5 in number, are white with a blue-green or sea-green tinge, sparingly marked with a pale red shell- and a dark red surface-blotch or dot or two, but have a wreath of pale red and reddish brown spots round the larger end, and resemble small eggs of the Goldfinch, in size averaging about 0·65 by 0·48.

411. Subsp. Chrysomitris corsicana.

Chrysomitris corsicana, Koenig, Orn. Monatsber. vii. p. 120 (1899); *C. citrinella*, Dresser, p. 536, pl. 167 (nec. Linn.)

♂ *ad.* (Corsica). Differs from *C. citrinella* in having the back pale brown (not green) striped with dark brown, the rump greener, and the under parts yellow.

Hab. Corsica.

This form which I described as the winter dress of *C. citrinella* is, as I subsequently ascertained, fairly separable from that species. Dr. Koenig met with it in April in Corsica, but I find no account of its habits or nidification which probably do not differ from those of *C. citrinella*.

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SERINUS, Koch, 1816.

412. Serin Finch.

SERINUS HORTULANUS.

Serinus hortulanus, Koch, Baier. Zool. p. 229 (1876); Gould, B. of Gt. Brit. iii. pl. 38; Dresser, iii. p. 549, pl. 172; Saunders, p. 177; *Fring. serinus*, Linn. Syst. Nat. i. p. 320; Naum. v. p. 114, pl. 123; (Sharpe), Cat. B. Br. Mus. xii. p. 368; Lilford, iv. p. 52, pl. 25.

Serin, French; *Milheira*, Portug.; *Verdecillo*, Span.; *Verzellino*, Ital.; *Girlitz*, German; *Gulirisk*, Dan.

♂ *ad.* (Germany). Forehead, supercilium, throat, and breast bright yellow; hind-crown, nape, and sides of head blackish grey margined with yellow; back, scapulars, and wing-coverts brown, slightly margined with yellow and with blackish central stripes; rump and upper tail-coverts yellow; quills and tail blackish brown narrowly margined with yellow; under parts yellow, the lower abdomen and under tail-coverts faint yellowish white; sides of breast and flanks striped with blackish brown; bill dark horn, paler at the base below; legs brownish flesh; iris dark brown. Culmen 0·32, wing 2·8, tail 2·05, tarsus 0·6 inch. In the winter the yellow on the head is obscured by greyish brown tips to the feathers, the back is less yellow and the quills have broader buffy yellowish white margins. The female has less yellow in the plumage; the crown, sides of head and nape are like the back; rump yellow marked with blackish brown, the margins to the quills and tips of the wing-coverts are buffy white; under parts dull white, throat and breast washed with yellow, and together with the flanks striped with blackish brown.

Hab. Central and southern Europe, of rare occurrence in Great Britain, Denmark, and Heligoland; wintering, and to some extent resident in north Africa; Palestine, and Asia Minor.

Unlike the Citril Finch, the Serin inhabits the foot of the mountains skirting the plains, orchards, vineyards, and gardens, and though tolerably tame in the town-gardens, it is shy outside in the country. Its flight is very swift not unlike that of *Cotile riparia*; its call-note resembles that of the Canary bird, but its song is clear and pleasing though not of a high order. It feeds chiefly on seeds, especially those of an oily nature. The nest is neat, compact, cup-shaped, constructed of fine roots and grass-bents, lined with plant-down, feathers, and hair, and is placed on a bush or tree, most frequently a fruit-tree. The

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eggs 4 to 5 in number resemble those of the Goldfinch, but the blotches are not so dark and more spread out, and they are smaller, averaging about 0·65 by 0·49.

413. Tristram's Serin.

SERINUS CANONICUS.

Serinus canonicus, Dresser, B. of E. iii. p. 555, pl. 171 ; Sharpe, Cat. B. Br. Mus. xii. p. 372 ; *S. aurifrons*, (nec. Blyth), Tristram, P.Z.S. 1864, p. 447 ; id. Ibis, 1868, p. 207, pl. vii.

♂ *ad.* (Palestine). Differs from *S. hortulanus*, in being larger, much paler and yellower, the under parts unstriated, the forehead, forepart of the crown and a collar on the hind-neck rich golden yellow ; under parts bright yellow, fading to dull white on the under tail-coverts, unstriped ; bill, legs, and iris as in *S. hortulanus*. Culmen 0·4, wing 3·0, tail 2·4, tarsus 0·6 inch. The female is paler and duller, and the young of the year differs from the adult in having the yellow colour replaced by rich russet, the golden yellow on the forehead being absent.

Hab. Palestine, where it is resident, and possibly Syria.

Inhabits the mountains, being common above 4,000 feet both on Lebanon and Hermon. In habits it is said to resemble the Siskin as also in its note, and its song is described as being varied and clear. In the summer it inhabits the mountains as high as the bush-zone extends, descending in the winter to the edge of the snow-line, and there collects in flocks and is very wild and shy. Its nest, which is conspicuously placed in the fork of a tall shrub, resembles that of the Goldfinch, but is shallower and not so neat. The eggs, from 4 to 6 in number, are deposited in May, and resemble those of the Serin but are larger, averaging about 0·73 by 0·50. It is just possible that Bonaparte's *Serinus syriacus* (Consp. i. p. 523) may have been an immature bird of this species, but the description is too vague for identification, and the specimen appears to be no longer in existence.

414. Canary Bird.

SERINUS CANARIUS.

Serinus canarius (Linn.), Syst. Nat. i. p. 321 (1766) ; (Webb and Berth.), Orn. Canar. p. 21, pl. 2 ; Dresser, iii. p. 557, pl. 172 ; Sharpe, Cat. B. Br. Mus. xii. p. 370.

♂ *ad.* (Teneriffe). Differs from *S. hortulanus* in being somewhat larger, in lacking the rich yellow on the head, the crown and sides of the

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head being apple-green finely striped with blackish brown; rump apple-green with scarcely perceptible stripes; under parts golden yellow fading to whitish on the lower abdomen and under tail-coverts, the flanks only striped with dull blackish brown; bill and legs fleshy brown; iris brown. Culmen 0·38, wing 2·9, tail 2·55, tarsus 0·72 inch. The female has much less greenish yellow in the plumage, the crown is grey striped with blackish, slightly tinged with apple-green, and the under parts buffy white washed with apple-yellow on the throat, breast, and middle of the abdomen.

Hab. The Canaries, Azores, and Madeira; has occurred in England, but specimens obtained were probably escaped cage-birds.

In general habits it resembles the Serin and frequents wooded districts, especially pine-woods, vineyards, and gardens. Its flight resembles that of the Linnet, and the bird flies from tree to tree at no great altitude. Its food consists of seeds of various kinds, tender shoots of plants, and fruit, especially figs. It is generally found near water, that being a necessity to this species. Its song resembles that of its caged descendants but is scarcely so rich. It is a resident passing the winter at lower altitudes than in the summer. Nidification commences in March and the nest is placed in a tree, seldom less than 8 feet from the ground and carefully concealed. It is neatly constructed of dry grass-stems, plant-cotton, and moss. The eggs, from 4 to 5 in number, are pale sea-green or pale blue spotted and marked with reddish brown, and measure about 0·77 by 0·54. Three and even four broods are said to be reared in a season.

415. Red-fronted Finch.

SERINUS PUSILLUS.

Serinus pusillus (Pall.), Zoogr. Ross. As. ii. p. 18, Tab. xliii. (1811); Dresser, iii. p. 561, pl. 173; Sharpe, Cat. B. Br. Mus. xii. p. 373; (Oates) F. Brit. Ind. Birds, ii. p. 230; *S. aurifrons* (Blyth), J.A.S. Beng. xvi. p. 476 (1847).

Malinovka, Russ.

♂ *ad.* (Asia Minor). Forehead and fore-crown bright flame red, the rest of the head and entire throat to the upper breast black, the hind crown washed with brown; upper parts, wings, and tail black, the feathers margined with buffy white or pale yellow; rump bright orange; under parts pale yellow fading into yellowish white on the under tail-coverts, and striped with black; bill and legs black; iris dark brown.

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Culmen 0·32, wing 2·82, tail 2·1, tarsus 0·85 inch. The female resembles the male but is duller and the red frontal patch is smaller. The young bird has the head brown streaked with blackish, the forehead tinged with dull orange and the throat and breast-feathers broadly margined with yellowish white.

Hab. Asia Minor, the Caucasus, Transcaspia, northern Persia, Afghanistan, and Turkestan; wintering in southern Asia Minor, Palestine, and the lower slopes of the Himalayas.

In habits and song it resembles the Serin but its note is rather weaker and like that species it feeds principally on seeds. As a rule it is rather shy. It breeds usually at an elevation of from 3,000 to 5,000 feet, the nest being usually placed in a juniper tree. It is a rather larger structure than that of the Serin from which it differs, being built of fine bents intermixed with grey lichens, and warmly lined with soft feathers. The eggs, from 4 to 5 in number, closely resemble those of the blue variety of *S. canarius* being pale bluish minutely and somewhat sparingly dotted with pale red, and measure about 0·65 by 0·51.

LIGURINUS, Koch, 1816.

416. GREENFINCH.

LIGURINUS CHLORIS.

Ligurinus chloris (Linn.), Syst. Nat. i. p. 304 (1766); (Naum.) v. p. 62, Taf. 120, figs. 1, 3; (Hewitson) i. p. 204, pl. lii. fig. 1; (Gould) B. of E. iii. pl. 200; id. B. of Gt. Brit. iii. pl. 39; Newton, ii. p. 105; Dresser, iii. p. 567, pl. 174; (Sharpe) Cat. B. Br. Mus. xii. p. 21; Saunders, p. 169; Lilford, iv. p. 50. pl. 24; *Chloris chlorotica*, (Cab.) Mus. Hein. i. p. 158 (1850); Sharpe, tom. cit. p. 26.

Verdier ordinaire, French; *Verdilhão*, Portug.; *Verdon*, Span.; *Verdone*, Ital.; *Grünling*, German; *Groenling*, Dutch; *Grönirisk*, Dan.; *Svenske*, Norweg.; *Grönfink*, Swed.; *Vihertävä-varpunen*, Finn.; *Zelenouschka*, Russ.

♂ *ad.* (England). Crown, nape, and upper parts ashy grey marked with apple-green; forehead, space above the eye and rump greenish golden yellow; wings and tail blackish the basal outer web of primaries broadly margined with bright yellow, and edge of wing bright yellow; secondaries and wing-coverts margined and tipped with slate-grey; basal

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half of outer tail-feathers yellow, all rectrices being margined with slate-grey; lores blackish; under parts greenish yellow, the flanks and lower abdomen slaty grey, the lower breast and middle of abdomen bright yellow; bill dull reddish brown, darker at the tip and paler at the base below; legs fleshy wood-brown; iris hazel. Culmen 0·5, wing 3 55, tail 2·5, tarsus 0·7 inch. The female is less brightly coloured, and less marked with yellow.

Hab. Europe as far north as Sundsvall in Sweden; accidental in Madeira; east as far as Persia and north-western Turkestan, wintering in north-west Africa.

Inhabits groves, the outskirts of forests, gardens, and cultivated places, and unless protected is somewhat shy. It feeds chiefly on seeds, but will eat berries and insects. It is not a true migrant but a wanderer in the autumn and winter. Its flight is strong, resembling that of a sparrow. Its call-note is a harsh and prolonged *schäär* and its song is not of a high order. Nidification commences in April and the eggs are deposited in May, a second brood being often raised in the season. The nest is placed in a hedge, on a bush or a tree, and is a fairly neat structure of grass-bents, rootlets, moss, and wool, lined with similar but finer materials, and the eggs 4 to 6 in number are white with a faint sea-green tinge, sparingly marked with pale purplish red shell- and deep red surface-spots and blotches, averaging about 0·8 by 0·6, and the markings are usually more numerous at the larger end.

Specimens from the southern portion of its range are rather brighter in coloration and extremely bright varieties from Palestine and Syria have been separated under the name *L. chloroticus* and intermediate varieties from Algeria under that of *L. aurantiiventris* (Cab.) Mus. Hein. i. p. 158, but after a careful comparison of a series I cannot acknowledge either, even as a subspecies.

417. Chinese Greenfinch.

LIGURINUS SINICUS.

Ligurinus sinicus (Linn.), Syst. Nat. i. p. 321, (1766); (David and Oust.) Ois. Chine, p. 338; (Sharpe), Cat. B. Br. Mus. xii. p. 26; (Tacz.) F. O. Sib. O. p. 629; (Seebohm), B. Jap. Emp. p. 127.

Kawarahiwa, Jap.

♂ *ad.* (Japan). Differs from *L. chloris* in having the crown ashy grey with an olive tinge darker on the forehead, the upper parts chocolate-brown washed with olive-yellow, the yellow wing-patch much larger, most

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of the secondaries with the outer web ashy white, golden yellow at the base and all the quills tipped with greyish white; breast and sides pale chocolate-brown washed with ashy grey; middle of abdomen and under tail-coverts bright yellow; beak reddish white; legs deep reddish grey; iris chestnut. Culmen 0·45, wing 3·0, tail 1·67, tarsus 0·66 inch. The female is much duller and browner in colour.

Hab. The Amoor and and Ussuri countries and the island of Askold in eastern Siberia; Mongolia, China, Corea, and Japan.

In habits it appears to assimilate closely with *L. chloris*, but its song is said to be inferior to that of that species. It places its nest on trees, usually conifers, and deposits in May or June 3 to 5 eggs. A specimen was obtained near Copenhagen in in 1893, but was probably an escaped cage bird.

418. Subsp. Ligurinus kawarahiba.

Ligurinus kawarahiba (Temm. and Schlegel), Faun. Jap. Aves, pl. 48; (Sharpe), Cat. B. Br. Mus. xii. p. 28; (Seebohm), B. Jap. Emp. p. 127.

Kawarahiwa, Jap.

♂ *ad.* Differs from *L. sinicus* merely in being somewhat larger in size and duller in colour. Culmen 0·45, wing 3·25, tail 2·05, tarsus 0·75 inch.

Hab. Japan.

In habits and nidification it does not differ from *L. sinicus* and indeed is scarcely separable, even subspecifically, from that species.

EOPHONA, Gould, 1851.

419. Japanese Grosbeak.

EOPHONA PERSONATA.

Eophona personata (Temm. and Schlegel), Faun. Jap. Aves, pl. 52, (1850); Gould, B. of Asia, v. pl. 18; David and Oust. Ois. Chine, p. 346, pl. 91; Sharpe, Cat. B. Br. Mus. xii. p. 30; Tacz. F. O. Sib. O. p. 622.

Ou-toung, Chinese.

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♂ *ad.* (Japan). Upper parts ashy grey, tinged with drab on the mantle; crown nearly to the nape and a narrow band round the base of the bill extending to the eye, wings, and tail glossy steel black; a white band across the wing; under parts pale drab ashy grey, paling to white on the under tail-coverts; bill yellow; legs reddish grey; iris hazel. Culmen 0·92, wing 4·55, tail 3·15, tarsus 0·9 inch.

Hab. Eastern Siberia (the Ussuri country), Japan, and Western China.

Frequents bush-covered localities in the mountains and the borders of the forests, where it is generally seen in the tops of the trees. It has a strong flight and in the winter roams about in small companies. It feeds on seeds, fruits, and berries, and is very partial to haricot beans, and will even steal them from the granaries. Its song is described as being melodious and pleasing. It nests in the Ussuri country in June, but its nest and eggs are, so far as I can ascertain, undescribed.

420. Chinese Grosbeak.

EOPHONA MELANURA.

Eophona melanura (Gmel.), Syst. Nat. i. p. 853 (1788); (Jard. and Selby) Ill. Orn. ii. pl. 63; David and Oust. Ois. Chine, p. 347, pl. 92; Sharpe, Cat. B. Br. Mus. xii. p. 28; Tacz. F. O. Sib. O. p. 624.

Hou-eull, Chinese.

♂ *ad.* (Corea). Differs from *E. personata* in having the upper parts browner, fading to ashy white on the rump, the black on the head extends over the sides of the face, cheeks, ear-coverts and throat; wings lacking the broad white band, but with a small white speculum, the primaries narrowly, the secondaries broadly tipped with white; bill yellow, at the tip green; legs pale flesh yellow; iris reddish. Culmen 0.75, wing 3·8, tail 2·7, tarsus 0·75 inch. The female lacks the black on the head, that part and the throat being ashy drab brown, and is duller and browner in colour.

Hab. Eastern Siberia, North China, and Corea, wintering in Central and Southern China.

Frequents open places in oak-woods, and is shy and wary. Its song is said to be good but inferior to that of *E. personata*. It breeds in the Ussuri country, but its nest and eggs are unknown.

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COCCOTHRAUSTES, Briss., 1760.

421. Hawfinch.

COCCOTHRAUSTES VULGARIS.

Coccothraustes vulgaris, Pall. Zoogr. Ross. As. ii. p. 12 ; Gould, B. of E. iii. pl. 199 ; id. B. of Gt. Brit. iii. pl. 40 ; Hewitson, i. p. 205, pl. lii. ; figs. 2, 3 ; Newton, ii. p. 98 ; Dresser, iii. p. 575, pl. 175 ; Saunders, p. 171 ; Lilford, iv. p. 46, pl. 23 ; *Loxia coccothraustes*, Linn. Syst. Nat. i. p. 299 ; (Naum.), iv. p. 435 ; Taf. 114 ; (Sharpe), Cat. B. Br. Mus. xii. p. 36 ; *C. japonicus*, Sharpe, tom. cit. p. 39 ; *C. humii*, id tom. cit. p. 40, pl. i. (1888).

Grosbec, French ; *Bico-grossudo*, Portug. ; *Cascanueces*, Span. ; *Frosone*, Ital. ; *Kernbeisser*, German ; *Appelvink*, Dutch ; *Kjernebider*, Dan. ; *Kirsebærfugl*, Norw. ; *Stenknäck*, Swed. ; *Nokkavarpunen*, Finn. ; *Dubonos*, Russ.

♂ *ad.* (Spain). Forehead yellowish fawn, becoming brownish on the hind-crown ; a collar round the hind-neck ashy grey ; mantle dark chestnut-brown ; rump fawn-brown ; quills glossy blue-black, with a long white patch on the inner web ; the inner ones after the fifth peculiarly widened and hooked at the tip ; larger coverts white, darkening to fawn on the innermost ; middle tail-feathers greyish brown, tipped with white, the rest black, with the terminal half of the inner web white ; lores, a narrow line at the base of the bill, and throat deep black ; under parts vinous fawn, middle of abdomen and under tail-coverts white ; bill bluish ; legs flesh colour ; iris brownish grey. Culmen 0·85, wing 3·9, tail 2·5, tarsus 0·9 inch. In the winter the colours are duller, and the beak dull flesh-colour. The female is duller, the black on the throat less extensive, and the white on the wings tinged with dull greyish. The young bird has the head yellowish brown, the upper parts yellowish chestnut-brown, the throat and under parts dull white, on the throat washed with yellow, all spotted and barred with blackish brown.

Hab. Europe, as far north as Southern Sweden and occasionally to Upland ; in Norway to Trondhjem ; Asia Minor, Persia, N.W. Punjab, Turkestan, and as far east as Japan ; North Africa rarely.

Frequents groves, especially hornbeam woods, gardens, and orchards, and is extremely shy and wary, usually perching in the top of a tree, from whence it can see all round. Its flight, though laboured, is swift and direct, and it can traverse long distances. Its call-note is a prolonged *zee*, and its song is merely a repetition and variation of the call-note and a sharp call resembling the syllable *knipps* with modulations. It feeds

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on hard-shelled seeds or fruits, beech nuts, conifer seeds, etc., and is very partial to peas and the kernels of cherry stones. The young are, however, fed chiefly on caterpillars. The nest is placed on a fruit tree, an oak, or often on a hornbeam, thorn, or holly, and is built of twigs, grass-bents, and rootlets. The eggs, from 4 to 6 in number, are dull greenish grey or pale olivaceous, marked with purplish underlying shell-blotches, and brown surface-spots, blotches, and lines, and measure about 0·92 by 0·69.

PYCNORHAMPHUS, Hume, 1874.

422. White-winged Grosbeak.

PYCNORHAMPHUS CARNEIPES.

Pycnorhamphus carneipes (Hodgson), As. Research. v. p. 276, xix. p. 151 (1836); (Gould), B. of As. v. pl. 21; Sharpe, Cat B. Br. Mus. xii. p. 47; Oates, F. Brit. Ind. Birds, ii. p. 200; (Dresser), ix. p. 179, pl. 671; *B. speculigerus* Brandt. Bull. Acad. St. Petersb. ix. p. 11 (1842).

♂ *ad.* (Transcaspia). Head, neck, breast, upper abdomen, mantle, wings, and tail deep black; rump and rest of under parts greenish yellow; a white patch on the wing; inner secondaries and inner larger coverts with the ends greenish yellow; upper mandible brownish, the lower whitish horn; legs pale fleshy brown; iris hair-brown. Culmen 0·7, wing 4·8, tail 4·0, tarsus 1·1 inch. The female is duller and greyer, the black being replaced by ashy brown, the cheeks, throat, and breast striated with dull white.

Hab. Transcaspia, Afghanistan, Turkestan, Mongolia, and the Himalayas east to Szechuen, and is resident.

It inhabits the mountains, usually above 8,000 feet but sometimes as low as 5,000 feet, and frequents the conifer groves and juniper thickets, and feeds on seeds and berries, especially those of the juniper. Its flight is strong and noisy but not sustained, and its call-note which is usually uttered when the bird is on the wing, resembles the syllables *tyou-déric* uttered jerkily; when wounded or captured it utters loud, harsh, cries. Nothing is as yet known respecting its nidification.

423. Allied Grosbeak.

PYCNORHAMPHUS AFFINIS.

Pycnorhamphus affinis (Blyth), J. A. S. Beng. xxiv. p. 179 (1855); (Gould), B. of As. v. pl. 23; (David and Oust.), Ois. Chine, p. 345; Sharpe, Cat. B. Br. Mus. xii. p. 46; Oates, F. Brit. Ind. Birds, ii. p. 199.

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♂ *ad.* (Sikhim). Head, neck, wings, back, and tail, and upper tail-coverts glossy black, the middle of the back marked with yellow; rest of the plumage deep rich yellow, often orange-yellow; bill horny blue; legs fleshy yellow. Culmen 0·85, wing 4·95, tail 3·75, tarsus 1·0 inch. The female has the head and upper neck slate-grey, the back and broad margins to the secondaries olive-green; wings and tail black; rump lower neck and under parts apple-green.

Hab. High elevations in the mountains of Nepal and Sikhim, Tibet, and Western China.

I find nothing on record respecting the habits or nidification of this species, which is closely allied to *P. icteroides*, which inhabits the western Himalayas, differing in having the thighs yellow instead of black, and the back marked with yellow.

PASSER, Briss., 1760.

424. House Sparrow.

PASSER DOMESTICUS.

Passer domesticus (Linn.), Syst. Nat. i. p. 323 (1766); (Naum.) iv. p. 253; Taf. 115; Hewitson, i. p. 209, pl. liii. figs. 3, 4; (Gould), B. of E. iii. pl. 184; id. B. of Gt. Brit. iii. pl. 32; Newton, ii. p. 89; Dresser, iii. p. 587, pl. 176, fig. 1; Sharpe, Cat. B. Br. Mus. xii. p. 307; Oates, F. Brit. Ind. Birds, ii. p. 236; Saunders, p. 179; Lilford, iv. p. 42, pl. 21.

Moineau domestique, French; *Pardal*, Portug.; *Gorrion*, Span.; *Haussperling*, German.; *Musch*, Dutch.; *Graaspurv*, Dan. and Norw.; *Husparf*, Swed.; *Kotivarpunen*, Finn.; *Domaschnik-vorobey*, Russ.; *Gouriya, Churi*, Hind.

♂ *ad.* (Turkey). Crown, nape, lower back, rump, and upper tail-coverts ashy grey, the latter tinged with brown; lores black; a broad streak on the side of the head joining and broadening on the hind-neck chestnut-red; mantle chestnut, varied with sandy ochreous and streaked with black; wings and tail blackish margined with rufous, rufous buff, and greyish buff; a white band across the wing; sides of the head and of the neck white; chin and throat deep black; rest of the under parts greyish white, breast and flanks washed with ashy grey, and abdomen and under tail-coverts faintly tinged with buff; bill black; legs light brown; iris dark brown. Culmen 0·48, wing 2·9, tail 2·38, tarsus 0·77 inch. In the winter the plumage is duller and the bill brownish grey, the lower mandible fleshy yellow at the base. The female and young lack the black on the throat, have the upper parts dusty brown marked with blackish and dull buff, the under parts brownish ash, darker on the flanks, and the bill, like the male's in winter, but rather paler.

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Hab. Europe generally, except in Italy, where it is replaced by *P. italiæ*; Asia Minor, and across Siberia, following the post roads; Persia, India east to Cochin-China, and Ceylon, where it is smaller and paler (*P. indicus* auctt.); N. Africa.

It has been introduced into distant countries as it possibly was into Europe, and has made itself quite at home in New Zealand and the United States, where it is by no means an unmixed blessing.

Eminently gregarious in its habits it is able to adapt itself almost anywhere, and is as much at home in a smoky manufacturing town as it is in the country. It is very omnivorous in its tastes and will feed on almost anything, grain, seed, insects, fruit, refuse cast out of the kitchen, &c., &c., but the young are fed on caterpillars and larvæ. Its note is a lively chirp, and it has no regular song. The nest is rather a bulky structure of grass-bents, straw, moss, &c., well lined with feathers or any soft material, and is placed on a branch, in the hole of a tree or wall, amongst ivy, under the eaves of a roof or any other suitable place; the eggs, usually from 4 to 6 in number, are greyish white more or less marked with grey shell- and brownish black or greyish black surface-spots and blotches, in size averaging about 0·88 by 0·61. Two, three, or even four broods are reared in the season.

425. Italian Sparrow.

PASSER ITALIÆ.

Passer italiæ (Vieill.), Nouv. Dict. xii. p. 199; Dresser, iii. p. 585, pl. 176, fig. 2; Sharpe, Cat. B. Br. Mus. xii. p. 315; *P. cisalpina* (Temm.), Man. d'Orn. p. 351 (1820); (Gould), B. of E. iii. pl. 185; fig. 2.

Moineau cisalpin, French; *Passera*, Ital.

♂ *ad.* (Genoa). Differs from *P. domesticus* in having the upper parts rather brighter coloured, the cheeks whiter, the entire crown and nape rich chestnut-red, and the under parts rather whiter. Culmen 0·45, wing 3·1, tail 2·45, tarsus 0·78 inch. In the winter the feathers on the crown have dull greyish margins, and the bill is dull yellowish, not black. The female closely resembles the female of *P. domesticus*.

Hab. The mainland of Italy south of the Alps; Corsica; Malta.

In habits and nidification it resembles *P. domesticus*.

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426. Spanish Sparrow.

PASSER HISPANIOLENSIS.

Passer hispaniolensis (Temm.), Man. d'Orn, p. 353 (1820) ; Gould, B. of E. iii. pl. 185 ; fig. 1 ; Dresser, iii. p. 593, pl. 177 ; Sharpe, Cat. B. Br. Mus. xii. p. 317 ; Oates, F. Brit. Ind. Birds, ii. p. 239 ; *P. salicicola* (Vieill.), Faun. Franc. p. 417 (1828).

Moineau espagnol, French ; *Pardal*, Portug. ; *Gorrion molinero*, Span. ; *Passera sarda*, Ital. ; *Bolotnui-vorobey*, Russ.

♂ *ad.* (Spain). Like *P. italiæ*, it has the head and nape rich chestnut, but the back is much darker and blacker, some of the feathers with white margins ; throat, lower neck, and breast deep black, the flanks broadly streaked with black. Culmen 0·52, wing 3·05, tail 2·45, tarsus 0·85 inch. The female is undistinguishable from that of *P. domesticus*.

Hab. Southern Europe, North Africa, Canaries, and Cape Verde Islands ; Asia Minor, Persia, Turkestan, and India, east to Mirzapore.

Although in its general habits, note, &c., it resembles *P. domesticus*, it differs considerably in its choice of abode for it is not found near houses but inhabits woods and groves, building its nest in trees, and very frequently in the foundations of the nests of the larger birds of prey. The nest resembles that of *P. domesticus*, as do the eggs, but they are as a rule rather paler, and I have never seen dark varieties, which are often found of *P. domesticus*.

427. Afghan Sparrow.

PASSER YATII.

Passer yatii, Sharpe, Cat. B. Br. Mus. xii. p. 322 (1888) : id. Trans. Linn. Soc. 2nd. ser. Zool. v. p. 80, pl. vi. fig. 2.

♂ *ad.* (Persia). Upper parts ashy brown, tinged with buff, slightly marked with fox-red on the larger wing-coverts and scapulars ; crown darker ; wings and tail black, bordered with warm, creamy buff ; the inner secondaries very broadly margined ; a few black stripes on the back ; lesser and median wing-coverts black, the latter broadly margined with creamy white ; larger coverts chiefly fox-red, tipped with creamy white ; lores black, supercilium rufous buff, ear-coverts ashy grey ; throat and fore-neck black, some of the feathers with narrow whitish margins ; under parts pale yellow, the breast and flanks dull ashy ; under tail-coverts warm isabelline. Culmen 0·4, wing 2·5, tail 1·8, tarsus 0·65 inch. The female has the throat white, tinged with sulphur, and no yellow on the under parts.

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Hab. Western Afghanistan, and Persia.

Until Mr. Zarudny met with this sparrow in Persia, and found it breeding commonly there, only the type was known. It is closely allied to *Passer moabiticus* Tristr., but differs in having the under parts yellow, not ashy white. The eggs 4 to 6 in number vary considerably, from stone-grey to grey closely marked with warm brown, and occasionally white spotted and blotched chiefly at the larger end with dark brown. In size they measure about 0·72 by 0·52.

428. Saxaul Sparrow.

PASSER AMMODENDRI.

"*Passer ammodendri*, Severtz.," Dode, P. Z. S. 1871, p. 481; Gould, B. of As. v. p. 15; Sharpe, Cat. B. Br. Mus. xii. p. 337; Dresser, ii. p. 183, pl. 672; *P. stoliczkæ*, Hume, Str. Feath. ii. p. 516 (1874), *P. timidus*, Prjev. Iz. Zais. Khami and Tibet, pp. 94, 95 (1883), *P. severtzovi*, Pleske, Bull. Ac. Imp. St. Petersb. xiii. p. 282.

Vorobey sacsaulney, Russ.

♂ (Transcaspia). Crown, nape, lores, and a line through and behind the eye deep black, some of the crown-feathers with narrow, faint buff margins; a broad patch bordering the crown to the nape clear rufous; upper parts buffy grey, streaked with black; quills and tail blackish, the former broadly, the latter narrowly margined with dull white; lesser wing coverts black, broadly tipped with white; chin and throat deep black, the rest of the under parts white; bill black; legs fleshy brown; iris, chocolate-brown. Culmen 0·5, wing 3·0, tail 2·6, tarsus 0·8 inch. In the autumn the black feathers have greyish buff margins; and the bill is dusky flesh-yellow, darker at the tip. The female is duller, less streaked with black, and lacks the rufous and black on the head and throat, the crown being buffy grey, faintly streaked with blackish brown, the chin and throat greyish white, tinged with blackish grey along the middle of the throat.

Hab. From Transcaspia and Turkestan to Alaschan and Ordos, wherever the saxaul is found growing.

It prefers sandy or clayey localities, covered with thinly scattered saxaul (Ammodendron) groves, in the vicinity of water, and feeds on the seeds of the saxaul and other plants, small beetles, and small orthopterous insects. Its flight is swift and it often flies at a considerable elevation. Its note resembles that of *P. domesticus* but is shriller. Its nest, like that of *P. domesticus*, is sometimes open, sometimes with the entrance at the side, and is constructed of dry twigs and bents and lined with camels' hair or

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feathers. It is placed on a saxaul, in the foundation of the nest of a bird of prey, or in a fissure on the steep slope of a sandhill. The eggs from 3 to 5 in number are white with a faint greenish, or sometimes a brownish tinge finely spotted and blotched with warm wood-brown, the markings being more profuse at the larger end; in size they measure about 0·75 by 0·57.

429. Russet Sparrow.

PASSER RUTILANS.

Passer rutilans, Temm. Pl. Col. iii. pl. 488, fig. 2 (1835); David and Oust. Ois. Chine, p. 341; Sharpe, Cat. B. Br. Mus. xii. p. 329; Seebohm, B. Jap. Emp. p. 131, *P. russatus*, Temm. and Schlegel, Faun. Jap. Aves, p. 90, pl. 50 (1850).

♂ *ad.* (Japan). Upper parts deep chestnut- or fox-red, slightly striped with black on the upper back and scapulars; wings and tail blackish, the latter margined with warm isabelline; wing-coverts tipped with white; under parts pale ashy brown, becoming nearly white on the lower abdomen; chin and centre of the throat black; sides of the throat and cheeks white; bill black; legs reddish grey; iris chestnut-brown. Culmen 0·5, wing 2·82, tail 2·0, tarsus 0·65 inch. It closely resembles *P. cinnamomeus*, differing only in the absence of yellow on the under parts, and has less white on the wing-coverts. The female lacks the black throat; upper parts brownish grey, more striped on the back; supercilium dull white; throat dull greyish white; rest of the under parts similar, but rather darker on the breast and flanks.

Hab. Japan, North China, and Formosa.

In habits and nidification it is said to resemble *P. domesticus*.

430. Tree-sparrow.

PASSER MONTANUS.

Passer montanus (Linn.), Syst. Nat. i. p. 324, (1766); (Naum.) iv. p. 480, Taf. 116, figs. 1, 2; Hewitson, i. p. 207, pl. liii. figs. 1, 2; (Gould), B. of E. iii. pl. 184; id. B. of Gt. Brit. iii. pl. 33; Dresser, iii. p. 597, pl. 178; Sharpe, Cat. B. Br. Mus. xii. p. 301; Newton, i. p. 82; Saunders, p. 181; Lilford, iv. p. 44, pl. 22.

Friquet, French; *Gorrion serrano*, Span.; *Passera mattugia*, Ital.; *Feldsperling*, German; *Ringmusch*, Dutch; *Skovspurv*, Dan.; *Pilfinke*, Norw.; *Pilfink*, Swed.; *Ketovarpunen*, Finn: *Polevoi vorobey*, Russ; *Suzume*, Jap.

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♂ *ad.* (England). Differs from *P. domesticus* in having the crown, nape, and hind-neck coppery red; a large black patch on each side of the head below the ear, and two distinct white bands across the wing; bill black; legs light brown; iris dark brown. Culmen 0·45, wing 2·8, tail 2·25, tarsus 0·7 inch. In the winter the plumage is a trifle greyer, the black feathers on the throat have whitish edges, and the bill is reddish grey at the base below. The female is slightly duller, the chin and upper throat alone are black, slightly marked with white, and the breast and flanks are washed with brown.

Hab. Europe generally, except in Portugal; Great Britain even to the Outer Hebrides; Sweden common to Upland, thence rarely to 68° 30′ N. Lat.; Norway as far north as east and west Finmark; Asia through Siberia to Japan; Asia Minor, Persia, Turkestan, Afghanistan, the Himalayas to Assam, Burmah, China, and the Malay peninsula and Philippines, to Java; somewhat rare in N. Africa; has been introduced into N. America.

In Europe it is not so often found near habitations as it is in the fields and groves, whereas in the east it takes the place of our House-sparrow, and is found chiefly about human habitations. It is as gregarious as *P. domesticus*, and quite as active and cheerful, though scarcely so noisy. Its note is also similar but somewhat softer and more agreeable, and the male has a regular song. It feeds on seeds of various kinds, chiefly those of noxious weeds, and its young are fed on caterpillars and various kinds of insects. For the purposes of nidification it selects with us the hollow of a tree or a hole in a wall, though in Eastern Asia it builds in preference in a house, usually under the eaves. Its nest resembles that of *P. domesticus* and is also carefully lined with feathers, but is smaller. The eggs resemble those of *P. domesticus* but are, as a rule, darker and smaller measuring about 0·73 by 0·55. Two or even three broods are reared in the season.

431. Desert-Sparrow.

PASSER SIMPLEX.

Passer simplex (Licht.), Verz. Doubl. p. 24 (1823); Temm. pl. col. iii. pl. 358; Dresser, iii. p. 603, pl. 179; Sharpe, Cat. B. Br. Mus. xii. p. 339; Koenig, J.f.O. 1896, p. 120, tab. vii. fig. 10 (eggs).

♂ *ad.* (N. Africa). Upper parts isabelline grey, the crown greyer; quills brownish grey, towards the ends blackish and tipped with creamy white; secondaries isabelline on the outer web; lesser wing-coverts white; larger coverts blackish, broadly tipped with isabelline; upper tail-coverts creamy white; tail sooty brown, darker towards the tip,

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and externally margined with isabelline; lores and upper throat black; sides of the neck white; rest of under parts pale, creamy white; bill black; legs dull yellowish horn; iris dark brown. Culmen 0·4, wing 3·1, tail 2·5, tarsus 0·85 inch. The female lacks the black on the lores and throat, and is more isabelline in tinge, not grey. In winter the male has the bill whitish at the base, but otherwise brown.

Hab. Southern Algeria, southern Nubia, N. Kordofan, and Senaar, and the desert between Suakin and Berber.

In habits it resembles the Tree-sparrow, though it does not frequent trees, but is found in the sand desert along the caravan-roads, and wherever there are wells, and feeds on seeds and insects of various kinds. Its nest, which is placed on the timbers, or in a hole in the wall of a well, is bulky, but firmly constructed of halfa-stems, dry grass, wool, rags, and feathers, and the eggs, 3 in number, are usually deposited in April and closely resemble those of *Passer montanus*.

PETRONIA, Kaup, 1829.

432. Rock-Sparrow.

PETRONIA STULTA.

Petronia stulta (Gmel.), Syst. Nat. i. p. 919 (1788); Dresser, iii. p. 607, pl. 180, fig. 2; *Fringilla petronia*, Linn. Syst. Nat. i. p. 322 (1766); Naum. iv. p. 497, Taf. 116, figs. 3, 4; (Gould), B. of E. iii. pl. 186; (Sharpe), Cat. B. Br. Mus. xii. p. 289; *P. rupestris brevirostris*; Tacz. F. O. Sib. O. p. 620.

Moineau fou, Soulcie French; *Pardal françez*, Portug.; *Gorrion campesino, Chilla*, Span.; *Passera lagia*, Ital.; *Steinsperling*, German; *Rotmusch*, Dutch.

♂ *ad.* (Spain). Centre of crown to nape greyish brown, mottled with dull white, sides of crown and ear-coverts warm, dark brown; supercilium and feathers below the eye buffy white; upper parts dusty wood-brown, the mantle spotted and blotched with blackish brown and buffy white; quills dark brown, margined with buffy white; tail dark brown, narrowly margined with buff, and with large terminal white spots to the feathers; under parts buffy white, faintly streaked with pale brown; on the middle of the throat a clear yellow spot; bill horn-brown, light brown at the base below; legs light brown; iris brown. Culmen 0·5, wing 3·6, tail 2·15, tarsus 0·75 inch. The female and young resemble the male, but the latter is paler, and lacks the yellow spot on the throat.

Hab. Central and southern Europe, Algeria, Madeira, and the Canaries; Asia Minor, and Asia as far east as Mongolia; N. China, Manchuria, and eastern Siberia.

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In habits it has much in common with *P. domesticus* but does not frequent houses, being usually met with in wild rocky localities, less frequently in cultivated places. It feeds in the spring and summer on insects, caterpillars, &c., on which its young are sustained, but in the autumn and winter it feeds on fruit, berries, and seeds of various kinds. On the ground it is more active than the House Sparrow, and is swifter on the wing. Its call-note is harsh, and in the spring it utters a sort of song which is, however, but very poor. It places its nest in holes in the rocks, or ground, or in hollow trees, constructing it of straw, grass-bents, fine roots, wool, hair, and rags, lining it well with feathers. The eggs, 4 to 6 or 7 in number, are deposited in May and June, and so closely resemble those of *P. domesticus* that they cannot with certainty be distinguished, but are as a rule somewhat larger.

433. Desert Rock-Sparrow.

PETRONIA BRACHYDACTYLA.

Petronia brachydactyla, Bp. Consp. Gen. Av. i. p. 513 (1850); Tristram. Ibis, 1868, pl. 6; Dresser, iii. p. 611, pl. 180, fig. 1; Sharpe, Cat. B Br. Mus. xii. p. 292.

♂ *ad.* (Persia). Upper parts sandy brown; under parts white, the throat, breast, and flanks washed with creamy buff; wings brown, externally margined with pale rufous buff and tipped with creamy white, the wing-coverts margined with creamy white; tail dark brown all but the middle ones, with a white patch at the end of the inner web, the outermost with the outer web dull white; lores and supercilium pale sandy; under tail coverts dull brown, broadly margined with white; bill horn-brown above, fleshy white below; legs dull fleshy yellowish; iris brown. Culmen 0·4, wing 3·5, tail 1·85, tarsus 0·75 inch. Sexes alike.

Hab. Palestine, North-east Africa, Arabia, and Persia.

In habits it resembles *P. stulta* but frequents dry arid plains, and is more of a desert bird, and in the winter is said to frequent stubble-fields, roads, and farm-yards in search of food. Its note is peculiar, resembling that of a large cricket. It breeds in elevated plains where bushes are scattered about, in Persia, at elevations of from 5,000 to 8,000 feet, descending to lower altitudes in the winter. The nest is neat and compact, and is placed low down in a bush, and it deposits 4 to 5 white eggs, which are marked with a few black spots, looking like diminutive eggs of *Oriolus galbula*.

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434. Yellow-Throated Sparrow.

PETRONIA FLAVICOLLIS.

Petronia flavicollis (Frankl.), P.Z.S., 1831, i. p. 120; Sharpe, Cat. B. Br. Mus. xii. p, 293; (Oates), F. Brit. Ind. Birds, ii. p. 235.

Raji, Jangli-churi, Hind.; *Adavi-pichike,* Tel.

♂ *ad.* (India). Upper parts generally ashy brown; quills and tail dark brown, margined with pale buff; lesser wing-coverts chestnut; median coverts tipped with white, and larger coverts with pale buff, forming two bars across the wing; under parts ashy white, the flanks darker, chin nearly white, throat yellow; bill black; legs greyish plumbeous; iris brown. Culmen 0·5, wing 3·25, tail 2·2, tarsus 0·6 inch. The female has the throat-spot much paler, the lesser wing-coverts rufous brown, and the bill brown. The winter plumage is rather browner, and the male has the beak brown.

Hab. Persia, Baluchistan, India from the Himalayas to Travancore and from Sind to the longitude of Midnapore in Bengal; Ceylon.

Frequents thin forest jungle, groves, and gardens, and in its general habits and note resembles the common House-sparrow. It is gregarious and in the winter often collects in tolerably large flocks. It breeds from March to June not strictly in colonies, though a dozen nests may be found in one large tree. The nest is usually placed in a hole in a tree, occasionally in a roof, and is usually only a bundle of dry grass lined with feathers, but sometimes a cup-shaped nest is built, strips of bark and tow being added to the grass, and sometimes it is a closely woven pad of hair, tow, and wool, with a little central hollow lined with a few feathers. The eggs, 3 to 4 in number, are dull and glossless, greenish white closely streaked, smudged, and blotched all over with dingy brown, sepia or chocolate-brown, the markings often quite hiding the ground colour; in size they average about 0·74 by 0·55.

MONTIFRINGILLA, Brehm, 1828.

435. Snow-Finch.

MONTIFRINGILLA NIVALIS.

Montifringilla nivalis, Linn. Syst. Nat. i. p. 321 (1766); (Naum.), v. p. 4, Taf. 117; (Gould), B. of E. iii. pl. 189; Dresser, iii. p. 617, pl. 181 Sharpe, Cat. B. Br. Mus. xii. p. 259.

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Niverolle, Pinson des neiges, French; *Fringuello alpino*, Ital.; *Schneefink*, German.

♂ *ad.* (Switzerland). Crown and nape clear dark ashy grey, the sides of the head and neck paler; back scapulars and innermost secondaries fulvous brown, with darker centres; rump darker, the upper tail-coverts black; quills and middle rectrices blackish, narrowly tipped with white; wing-coverts and secondaries white; rest of tail-feathers white, all but the outermost tipped with black; under parts white, the chin and middle of the throat deep black; bill and legs black; iris brown. Culmen 0·55, wing 4·55, tail 3·05, tarsus, 0·95 inch. In the winter the black feathers are obscured by white edges, and the bill is yellow with a dark tip. The female has the crown duller, the black patch on the throat smaller, and the under parts duller white.

Hab. The Pyrenees and Alps, ranging east to Palestine.

Frequents sterile, rocky districts high up in the mountains where it runs about amongst the stones in search of food, uttering its call-note *puitt, puitt* or *pitt, pitt*, every now and again taking a short flight and again settling; every now and then it will stand for a moment on any small eminence, slightly spread its wings, flirt its tail, and utter its note. In the winter it descends to lower levels and visits the valleys. Its food consists of insects of various kinds, buds, and seeds. Two broods are usually raised in the season the first eggs being deposited in May, and the second lot in July. The nest is built of dry grass-straws, fine roots, &c., lined with hair, wool, and feathers, and is placed amongst the rocks, and in the buildings of such hospices as are at considerable altitudes, such as the monastery of the Great St. Bernard. The eggs from 4 to 5 in number are pure white averaging about 0·94 by 0·65.

436. Subsp. Montifringilla alpicola.

Montifringilla alpicola (Pall.), Zoogr. Ross. As. ii. p. 20 (1811), Radde, Orn. Cauc. p. 171, pl. viii.; Sharpe, Cat. B. Br. Mus. xii. p. 260; Dresser, ix. p. 187, pl. 673.

Gornyi-Wjurok, Russ.

♂ *ad.* (Erzeroum). Differs from *M. nivalis* in having a longer and more slender bill, and the crown and nape brownish grey instead of ashy grey. Culmen 0·6, wing 4·5, tail 2·9, tarsus 0·95 inch. In the winter the black feathers are obscured by white edges; and the bill is brown, the lower mandible yellowish at the base.

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Hab. The Caucasus ranging east through Persia and Afghanistan to eastern Turkestan at altitudes above 10,000 feet in summer, descending to 4,000 to 5,000 feet in winter. In habits, note, and mode of nidification it does not differ from *M. nivalis*.

437. Adams' Snow-Finch.

MONTIFRINGILLA ADAMSI.

Montifringilla adamsi, Moore, MS. Adams, P.Z.S. 1858, p. 482., 1859, p. 178, pl. 156 ; Gould, B. of As. v. pl. 1 ; David and Oust. Ois. Chine, p. 547 ; Sharpe, Cat. B. Br. Mus. xii. p. 261 ; Oates, F. Brit. Ind. Birds, ii. p. 246.

♂ *ad.* (Himalayas). Differs from *M. alpicola* in having the crown and nape, lesser and median wing-coverts brown, the larger coverts brown, tipped with white, the secondaries blackish brown, broadly terminated with white on the inner web, the innermost like the back, and the throat, black, but concealed by whitish edges to the feathers ; bill and legs black ; iris brown. Culmen 0·5, wing 4·4, tail 2·85, tarsus 0·8 inch. Sexes alike. In the winter the bill is yellow, dusky on the culmen, brown at the tip.

Hab. The higher regions of the Himalayas, Kashmir, Ladak, Kulu, and Gilgit, east to Sikhim ; Kashgar and Tibet, in summer at altitudes of from 11,000 to 14,000 feet.

It is common on bare and barren mountains, feeding on the seeds of the few plants found in these desolate regions. Its call-note is like that of a Lark. Its nest is constructed of grass and is generally placed in the long dykes, built by the Tartars over their dead, but I do not find any description of its eggs.

438. Mandelli's Snow-Finch.

MONTIFRINGILLA MANDELLII.

Montifringilla mandellii, Hume, Str. Feath. iv. p. 488 (1876) ; Sharpe, Cat. B. Br. Mus. xii. p. 262 ; *Onychospiza taczanowskii*, Prjev. Mongol i Strana Tangut. ii. p. 81, tab. xi. fig. 1 (1876) ; David and Oust. Ois. Chine, p. 548 (1877).

♂ *ad.* Forehead and supercilium white ; crown and nape earthy brown ; a somewhat indistinct, dull, greyish white collar ; back dark earth-brown, striped with dull white ; rump white ; upper tail-coverts pale fawn-brown ; quills brown, margined with white, secondaries broader, margined with dull white and pale fawn ; wing-coverts broadly tipped with white ; under parts white ; lores and region round the eye black ; bill horn-colour, darker at the tip ; legs black ; iris brown. Culmen 0·5, wing 4·1, tail 2·7, tarsus 0·9 inch. Sexes alike.

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Hab. Northern Tibet, the sources of the Tetung river; Koko-nor; the borders of Tsaidam, and the Njan-schan mountains.

In its habits it reminds one of the Chats, runs very swiftly, perches on stone-heaps or rocks, and bobs, continually vibrating its wings. It passes the night in the holes of a species of *Lagomys*, and also digs a hole for itself. It probably builds its nest in these holes, but its nest and eggs are unknown. It collects in small parties but never in large flocks.

439. Red-necked Snow-Finch.

MONTIFRINGILLA RUFICOLLIS.

Montifringilla ruficollis, Blanford, J.A.S.B. xli. pt. ii. p. 66 (1871); Gould, B. of As. v. pl. 5; Prjev. Mongol i Strana Tangut, &c., tab. xi. fig. 2; (David and Oust.) Ois. Chine, p. 548; Sharpe, Cat. B. Br. Mus. xii. p. 263; Oates, F. Brit. Ind. Birds, ii. p. 245.

♂ *ad.* (Sikhim). Forehead whitish, becoming grey on the fore-crown, the rest of the crown and upper parts generally, warm sandy buff, the back striped with dark brown; sides of the hind-crown and of the neck rufous; quills blackish brown, all but the three outermost white at the base of the inner web, all margined and tipped with buffy white; inner secondaries and larger wing-coverts much broader margined; median and lesser wing-coverts chiefly white; middle tail-feathers blackish brown, margined with warm buff, the rest white or greyish white, broadly tipped with blackish brown, margined with fulvous buff; lores, a stripe through the eye, and a stripe on each side of the throat from the base of the bill black; chin, throat, and under parts white; the sides of the breast and flanks rufous; the vent and under tail-coverts washed with rufous buff; bill and legs blackish; iris brown. Culmen 0·45, wing 3·6, tail 2·12, tarsus 0·83 inch. Sexes alike.

Hab. Sikhim and Tibet, Koko-nor as far north as the Koko-nor basin and the Tetung river; Kan-su.

It inhabits hilly steppes and valleys usually at altitudes of from 15,000 to 16,000 feet. Its flight is wavy and on the ground it runs swiftly, and when sitting on a rock or stone it often makes a peculiar shivering with its wings like a Chat. Its note is said to resemble that of a Tree-sparrow. It inhabits the empty holes of *Lagomys ogotono*, which are numerous on the steppes of the Koko-nor, and nests in them, but so far as I can ascertain the nest and eggs are unknown. In the winter they collect in flocks of several hundred individuals.

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440. Blanford's Snow-Finch.

MONTIFRINGILLA BLANFORDI.

Montifringilla blanfordi, Hume, Str. Feath. iv. p. 487 (1876); Sharpe, Cat. B. Br. Mus. xii. p. 264, pl. iv.; Oates, F. Brit. Ind. Birds, ii. p. 245.

♂ *ad.* (Sikhim). Resembles *M. ruficollis*, but has the upper parts uniform in colour, unstriped, no white on the median and lesser wing-coverts; tail ashy brown at the base, blackish brown towards the end with a subterminal white band, but the middle feathers are brown, with fulvous margins; forehead, a large patch covering the cheeks and ear-coverts, and broad, short supercilium white; chin and one central and two lateral frontal stripes deep black; bill and legs black; iris brown. Culmen 0·45, wing 3·75, tail 2·3, tarsus 0·71 inch.

Hab. Darjeeling, Sikhim, and Tibet.

It is said to inhabit high altitudes, from 15,000 to 16,000 feet, but I find no account of its habits or nidification.

441. David's Snow-Finch.

MONTIFRINGILLA DAVIDIANA.

Montifringilla davidiana (J. Verreaux), N. Arch. Mus. Bull. vi. p. 40, No. 32 (1870); (Prjev.), Mongol i Strana Tangut, &c., tab. xx. fig. 6, (egg); Sharpe, Cat. B. Br. Mus. xii. p. 265; (David and Oust.) Ois. Chine, p. 339; *Passer ouratensis*; David, MS.; Swinhoe, P.Z.S. 1870, p. 430.

♂ *ad.* Differs from *M. blanfordi*, in having the crown sandy grey, the forehead, a broad line round the bill, the chin and middle of the throat to the breast deep black, scarcely any rufous on the neck; the upper parts distinctly striped with dark brown; bill horn, rather paler at the base; legs black. Culmen 0·4, wing 3·36, tail 1·8, tarsus 0·65 inch. Sexes alike.

Hab. The highlands of Mongolia, south and east to the northern bend of the Khanghor.

In habits it resembles *M. ruficollis*, but its note is like that of *Petronia stulta*. It places its nest, which is formed of dry grass, hair, and down, in the deserted hole of *Lagomys ogotono*, at a depth of about 3 to 4 feet, or the bird digs a hole itself for that purpose, in which case it is narrower, not deeper than 2 to 3 feet and not straight but curved, and widened at the bottom where the nest is placed. The eggs, usually 6 to 7 in number, are deposited in May, and are white with a yellowish tinge, and measure about 0·81 by 0·56.

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FRINGALAUDA, Hodgs., 1836.

442. Hodgson's Ground-Finch.

FRINGALAUDA NEMORICOLA.

Fringalauda nemoricola, Hodgs., As. Res. xix. p. 158 (1836); David and Oust. Ois. Chine. p. 334; (Sharpe), Cat. B. Br. Mus. xii. p. 268; Oates, F. Brit. Ind. Birds, ii. p. 247.

♂ *ad.* (Himalayas). Crown and upper parts generally blackish brown, with rufous and dull buff margins, the rump uniform ashy grey; quills dark brown, with narrow rufous margins; greater wing-coverts brown, mottled with black and tipped with white; median coverts ashy brown, margined with white; tail dark brown, with dull whitish margins; sides of head and neck reddish brown; the cheeks with brownish streaks; an indistinct ashy white supercilium marked with brown; under parts plain brown, the sides of the breast and flanks streaked with dark brown, the centre of the abdomen dull white; under tail-coverts broadly margined with white; under wing-coverts ashy white; axillaries yellow; bill and legs fleshy brown; iris ruddy brown. Culmen 0·48, wing 3·87, tail 2·65, tarsus 0·8 inch. Sexes alike.

Hab. The Himalayas from Nepal to Bhutan, the Kan-su mountains in Mongolia, Moupin, and Western China.

Inhabits the Alpine regions, in summer at considerable altitudes, descending lower in the winter. When the young are fledged they collect in large flocks and frequent the meadows and slopes of the highest mountains. When in search of food they keep flying from place to place uttering a squeaking note. On the ground they disperse but on the wing form a dense mass. I do not find any description of its nest or eggs.

443. Altai Ground-Finch.

FRINGALAUDA ALTAICA.

Fringalauda altaica (Eversm.), Bull. Soc. Imp. Nat. Mosc. xxi. p. 223 (1848); Dresser, Ibis, 1893, p. 378; *F. sordida*, Stoliczka, J.A.S.B. xxxvii. pt. ii. p. 63 (1868); (Sharpe), Cat. B. Br. Mus. xii. p. 266; Oates, F. Brit. Ind. Birds, ii. p. 248; *Passer pulverulentus* Severtz., Turk. Jevot. pp. 64, 116 (1873). ? *Propasser murrayi*, Blyth, J.A.S.B. xxxii. p. 458 (1863).

♂ *ad.* (Altai). Resembles *F. nemoricola*, but has the upper parts somewhat paler, the axillaries white, not yellow, and the tips of the median and larger wing-coverts narrower and tinged with rufous; bill brown, the base

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of lower mandible, and a spot at base of forehead brownish fleshy; legs blackish brown; iris cinnabar red. Culmen 0·5, wing 3·92, tail, 2·75, tarsus 0·76 inch. Sexes alike.

Hab. Altai range, Turkestan, Afghanistan; the Himalayas from Gilgit to Kumaon, occurring at altitudes of from 9,000 to 10,000 feet in summer and at about 5,000 feet in winter.

In habits it is said to agree closely with *F. nemoricola*.

LEUCOSTICTE, Swains., 1831.

444. Brandt's Ground-Linnet.

LEUCOSTICTE BRANDTI.

Leucosticte brandti, Bp. Consp., i. p. 537 (1850); (Sharpe), Cat. B. Br. Mus. xii. p. 269; (Oates), F. Brit. Ind. Birds, ii. p. 248; *Montifringilla hæmatopygia*, Gould, P.Z.S. 1851, p. 115; id. B. of As. v. pl. 3.

♂ *ad.* (Sikhim). Upper parts sooty ashy brown, with darker streaks; crown sooty blackish brown; rump and upper tail-coverts ashy brown, with terminal rosy margins; wings and tail blackish brown, with hoary whitish margins, the coverts with broader margins; lores, base of the bill, and feathers round the eye blackish; under parts ashy grey, the lower abdomen white; bill and legs black; iris brown. Culmen 0·5, wing, 4·4, tail 2·95, tarsus 0·8 inch. Female similar, but the rose tint on the rump is duller. The young bird is duller and darker, more streaked above, and lacks the rosy tinge on the rump.

Hab. Turkestan; the Himalayas from Gilgit to Sikhim; Tibet.

Frequents the mountains in summer at elevations of 12,000 to 19,000 feet, descending lower in winter. I find nothing on record respecting its habits, and its nest and eggs are unknown.

445. Siberian Ground-Linnet.

LEUCOSTICTE ARCTOA.

Leucosticte arctoa, (Pall.) Zoogr. Ross. As. ii, p. 11 (1811); (Gould), B. of As. v. pl. 2; Ridgway, p. 394; (Sharpe), Cat. B. Br. Mus. xii. p. 272; Tacz. F. O. Sib. O. p. 649; *Fringilla gebleri*, Brandt, Bull. Soc. Acad. St. Petersb. x. p. 251 (1842).

♂ *ad.* (E. Siberia). Upper parts dull chocolate brown with paler margins; wings blackish brown with broad, external, silvery white margins.

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and blackish shafts; tail and upper tail-coverts hoary white, with blackish shafts, the former dark grey at the tip; an indistinct light band from the eye covering the nape and hind-neck; under parts chocolate-brown, with faint reddish margins; under tail-coverts hoary white; bill and legs blackish brown; iris dark brown. Culmen 0·47, wing 4·15, tail 2·85, tarsus 0·8 inch. Sexes alike.

Hab. Eastern Siberia; accidental on Aleutian Islands (?).

Inhabits the mountains where it is resident and not numerous. In summer it is found above the forest zone, usually on the south side of the mountains. Its nest and eggs are unknown, but the latter are probably white like those of its congeners.

446. Giglioli's Ground-Linnet.

LEUCOSTICTE GIGLIOLII.

Leucosticte gigliolii, Salvadore, P.Z.S. 1868, p. 579, pl. xliv; (Sharpe), Cat. B. Br. Mus. xii. p. 273; Tacz. F. O. Sib. O. p. 651.

♂ *ad.* (E. Siberia). Differs from *L. arctoa* in having the lower back and scapulars washed with dull crimson, the wings without the silvery white margins; tail blackish brown with narrow paler margins; rump and upper tail-coverts sooty blackish; an indistinct greyish brown collar; crown, ear-coverts, and cheeks dull silvery grey; under parts dark greyish brown, the breast and flanks washed with dull crimson; middle of abdomen greyer; beak and legs blackish; iris brown. Culmen 0·47, wing 4·35, tail 3·0, tarsus 0·8 inch. Sexes alike. In winter the plumage is browner, with less red, the under parts have ashy grey margins, and the bill is yellowish with dark tip.

Hab. Eastern Siberia, in the Baikal district, and Dauria.

In habits it resembles *L. arctoa*, and frequents bare rocky localities on the sunny side of the mountains, where it finds abundance of seeds on which it feeds. In severe weather it collects in flocks and is then seen near the villages, where it feeds on grain and the seed of the wild cabbage (*Brassica oleracea*). Its nest and eggs are unknown.

447. Aleutian Ground-Linnet.

LEUCOSTICTE GRISEONUCHA.

Leucosticte griseonucha (Brandt), Bull. Ac. St. Petersb. 1841, p. 36; Baird, Trans. Chic. Acad. i. p. 317, pl. 28, fig. 2; Nelson, Nat. Hist. Alaska, p. 176; Turner, Nat. Hist. Alaska, p. 171, pl. viii.; (Sharpe), Cat. B. Br. Mus. xii. p. 275; Ridgway, p. 393; Tacz. F. O. Sib. O. p. 655.

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♂ *ad.* (Alaska). Differs from *L. brunneinucha* in being darker, both above and below; crown black, the sides of the hind-crown, of the head from the middle of the eye, and the entire nape and hind-neck pearl-grey; lores and throat blackish; breast blackish chocolate, very slightly marked with red on the lower portion; bill blackish horn, slightly yellowish at the base; legs black; iris nut-brown. Culmen 0·58, wing 4·4, tail 3·2, tarsus 0·97 inch. Sexes alike. In the winter the grey on the head and neck is duller, and the bill is yellowish with a dark tip. The nestling is dull reddish brown, greyer on the rump and abdomen, darker on the head; secondaries and wing-coverts broadly margined with fulvous; no red in the plumage.

Hab. Aleutian, Prybelov, and Commander Islands; Alaska; is said to winter in South-eastern Siberia.

"It affects the bold ragged cliffs along the sea-shore, and is constantly in motion either on the wing, flying in sweeping, long curves, sometimes near the earth, to mount 30 or 40 feet at a single effort, alighting on some projecting ledge of a bluff to search for food, and away again to alight for a moment on a weed-stalk." It is very tame and confiding when near the villages, but elsewhere more shy. It has no song but utters a low, mellow chirp; its food consists chiefly of seeds, but also of insects and their larvæ. It breeds in May, constructing a neat nest of grass lined with finer grass and feathers, which it places in a chink or crevice of the cliffs, and deposits 3 to 6 pure white eggs, with a rosy tinge when fresh, which measure about 0·97 by 0·67.

448. JAPANESE GROUND-LINNET.

LEUCOSTICTE BRUNNEINUCHA.

Leucosticte brunneinucha, (Brandt), Bull. Ac. Sc. St. Petersb. x. p. 252 (1842); (Gould) B. of Asia. v. pl. 4; David and Oust. Ois. Chine, p. 334, pl. 89; (Sharpe), Cat. B. Br. Mus. xii. p. 278; Tacz. F. O. Sib. O. p. 653; (Seebohm), B. Jap. Emp. p. 128; Ridgw. p. 395.

♂ *ad.* (Japan). Upper parts dark brown, with sandy brown margins; crown dark grey, marked with hoary grey; occiput, nape, hind-neck, and sides of neck tawny buff, sometimes dull creamy white; rump and upper tail-coverts washed and tipped with rosy red; wings and tail blackish brown, with whitish margins the former washed with rosy red; under parts blackish brown, margined with greyish white, and washed with rosy red, the chin, throat, and neck dusky greyish brown; under tail-coverts white, with dusky centres and washed with rosy red; bill and legs blackish; iris dark brown. Culmen 0·46, wing 4·15, tail 2·85, tarsus 0·8 inch. Sexes alike. In winter the plumage is more sandy coloured, and the bill yellow, with a dark tip.

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Hab. Kamchatka, Eastern Siberia, Japan, and Northern China.

Frequents the same localities as *L. gigliolii*, rocky bare places in the mountains, and feeds on small seeds. It breeds in Kamchatka, nesting in the rocks, but I do not find any description of its nest and eggs.

449. Tibetan Ground-Linnet.

LEUCOSTICTE ROBOROWSKII.

Leucosticte roborowskii, Prjev., Ibis 1887, p. 411.

♂ *ad.* Upper part of the head carmine, with silvery specks on the nape; sides of head and throat blackish carmine, with large triangular silvery spots on the throat; the whole body reddish pink, with carmine margins on the back of the neck and back, as well as on the shoulders and upper wing-coverts; the prevailing colour of these latter is light brown; upper and under tail-coverts pink; thighs white; on the hinder flank-feathers a few long, blackish bars; feathers and under wing-coverts white, with pink margins; primaries brown, with whitish red margins, broader on the inner ones which have greyish white tips; inner web of primaries and part of secondaries similarly coloured; tail brown, with whitish red external margins, except the outer feathers, which have white margins; bill dark horn, paler at the base; legs brown; iris dark hazel. Culmen 0·54, wing 4·9, tail 3·55, tarsus 0·82 inch.

Hab. Eastern Burkhan-Budda range Tibet, at from 15,000 to 16,000 feet altitude.

In habits and mode of life undistinguishable from *L. brandti*. Only one specimen, the type of this species, is known at present, and not having had an opportunity of examining this, I have reproduced Prjevalsky's description.

FRINGILLA, Linn., 1766.

450. Chaffinch.

FRINGILLA CŒLEBS.

Fringilla cœlebs, Linn. Syst. Nat. i. p. 318 (1766); Naum. v. p. 13, pl. 118. figs. 1, 2; Hewitson, i. p. 192, pl. xlix. fig. 1; Gould, B. of E. iii. pl. 187; id. B. of Gt. Brit. iii. pl. 34; Newton, ii. p. 68; Dresser, iv. p. 3, pl. 182; Sharpe, Cat. B. Br. Mus. xii. p. 171; Saunders, p. 183; Lilford, iv. p. 36, pl. 19.

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Pinson ordinaire, French; *Tentilhão*, Portug.; *Pinzon*, Span.; *Fringuello*, Ital.; *Buchfink*, German; *Virik*, Dutch; *Bogfinke*, Dan. and Norweg.; *Bofink*, Swed.; *Peipponen*, Finn.; *Ziablik*, Russ.

♂ *ad.* (England). Forehead black; crown, nape, and sides of the neck rich slaty blue; back dull chestnut-red; rump yellowish green; quills dull dark brown, externally margined with greenish white, the inner secondaries margined with fulvous, the median coverts almost pure white, the lesser and scapulars plumbeous; middle tail-feathers blackish grey, indistinctly edged with white, the rest black, with broad white patches on the two outer ones; cheeks, throat, and under parts rich reddish brown, paler on the lower abdomen; bill bluish plumbeous; legs dull brown; iris hazel. Culmen 0·55, wing 3·45, tail 3·0, tarsus 0·75 inch. In the winter the colours are duller, the feathers on the head and nape have brownish margins, and the under parts are paler. The female has the head and back dull brown, the crown darker, the under parts dull greyish brown, with a reddish tinge, the lower abdomen and under tail-coverts dirty white.

Hab. Europe generally, but not common north of the Arctic circle; east to Western Siberia, Persia, and Turkestan; North Africa in winter.

Frequents groves, gardens, and plantations. Is quick and active in its movements, and is as a rule by no means shy. Its song though short is loud, melodious, and exultant, in England at least being regarded as a good harbinger of returning spring, for the birds begin singing immediately on the cessation of frost and cold. It feeds chiefly on insects during the summer, and on seeds and berries at other seasons, and may be reckoned amongst the farmer's and gardener's best friends. It breeds in April or May, placing its neat little nest on the bough of a tree, but seldom in a hedge; it is constructed of grass-bents, rootlets, moss, lichens, and fine bark-strips, carefully lined with wool, hair, or feathers. The eggs 4 to 6 in number are purplish grey, clouded with rufous, washed with green, and spotted and blotched with dark red, and measure about 0·77 by 0·56. Occasional varieties are pale blue, faintly marked with purple, and finely spotted with dark brown.

451. Canarian Chaffinch.

FRINGILLA TINTILLON.

Fringilla tintillon, Webb and Berth., Orn. Canar. p. 21. pl. 4, fig. 1 (1836–44); Dresser, iv. p. 9, pl. 183, fig. 1, (partim), ix. p. 190; ? *Fringilla canariensis*, Vieill., Nouv. Dict. xii. p. 232 (1817); Sharpe, Cat. B. Br. Mus. xii. p. 177.

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♂ *ad.* (Canaries). Differs from *F. cælebs* in having the crown blackish blue, the back dark slate-blue, the rump and upper tail-coverts apple-green, and the under parts buffy fawn, and no distinct frontal band. Culmen 0·6, wing 3·25, tail 2·48, tarsus 0·8 inch. The female has the upper parts darker and the under parts paler than the female of *F. cælebs*, the latter being pale buff, without any reddish tinge.

Hab. Canary Islands.

In habits it does not differ appreciably from *F. cælebs*. It does not affect the lowlands, at least during the summer, but is usually to be met with in the chestnut-groves, or less commonly amongst the laurels and in the pine-woods. Dr. Koenig expresses its call-note by the syllables *tschihuit, tschihuit*, and its song *hitta, hitta, hitta, rrrrr*, and he found it rather shy and wary. It breeds in May, placing its nest like our Chaffinch on a tree, but it does not construct it so neatly, it being somewhat loosely built of bents, dry grasses, moss, and hair, lined with hair and feathers. The eggs, usually 4 in number are pale bluish or greenish white, sparingly spotted with dark brown, sometimes resembling the ordinary type of *F cælebs* but much paler. In size they average about 0·85 by 0·52.

452. Subsp. Fringilla maderensis.

Fringilla maderensis, Sharpe, Cat. B. Br. Mus. p. 175 (1888).

Tintilhão, in Madeira.

♂ *ad.* (Madeira). Differs but very slightly from *Fr. moreleti*, and only in having the under parts not so decidedly fawn coloured, but with a shade of pink, and the bill is rather stouter and longer. The females are undistinguishable. This is at best a very doubtful subspecies, and scarcely deserving of distinction.

Hab. Madeira.

In habits, note, and nidification this bird does not differ from *F. canariensis* and *Fr. moreleti*, except that it frequents the pine-woods, whereas *F. tintillon* affects the chestnut-groves. Its call-note is said by Dr. Koenig to resemble the syllables *tin, tin, tschin, tschin*, and its song differs slightly from that of the Canarian bird. Its nest resembles that of the Canarian form but is rather neater, and its eggs, usually 3, but occasionally 4 in number, resemble pale varieties of *F. cælebs* and in size average about 0·79 by 0·6.

453. Subsp. Fringilla moreleti.

Fringilla moreleti, Puch. Rev. and Mag. de Zool. 1859, p. 412, pl. 16; Sharpe, Cat. B. Br. Mus. xii. p. 176.

Tintilhão, in the Azores.

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♂ *ad.* (Azores). Upper parts pale slate-blue, the crown darker; a tolerably broad blackish slate frontal band; back, rump, and upper tail-coverts apple-green, otherwise not differing from *F. tintillon*. Culmen 0·65, wing 3·3, tail 2·82, tarsus 0·85 inch. The female is undistinguishable from that of *F. tintillon*.

Hab. Azores.

In habits it does not differ from its near allies, and I do not find any information as to whether there is any difference in its note or song. Its nest is built of moss, lined with wool, and is not so neatly made as that of *F. cælebs*. The eggs 4 to 5 in number closely resemble the ordinary type of those of *F. cælebs*, but are, if anything, a trifle paler.

454. Subsp. Fringilla palmæ.

Fringilla palmæ, Tristram, Ann. and Mag. Nat. Hist. ser. 6, iii. p. 489 (1889); Meade Waldo, Ibis. 1890, pl. iii.; Dresser, ix. p. 188, pl. 674; *Fringilla cærulescens*, Koenig, J. f. O. 1889, p. 183, Tab. vii.

♂ *ad.* (Palma). Differs from *F. tintillon* in having the upper parts uniform plumbeous or slate-blue, there being no green on the back or rump, and the abdomen is pure white, not ochreous buff. Culmen 0·65, wing 3·55, tail 3·15, tarsus 0·95 inch. The female resembles that of *F. tintillon*, but has the upper parts somewhat duller and paler, and the abdomen is pure white, not buffy white.

Hab. The island of Palma, one of the Canary group.

It inhabits the laurel-groves as well as the pine- and chestnut-woods, and is said to differ both in its call-note and song from the Canarian bird, the former resembling the syllables *chiri-chiri, chiri-chiri*. In its habits and nidification it does not otherwise differ from *F. tintillon*, and its eggs are undistinguishable from pale varieties of those of that species.

455. Algerian Chaffinch.

FRINGILLA SPODIOGENYS.

Fringilla spodiogenys, Bp. Rev. Zool. 1841, p. 146; Dresser, iv. p. 13, pl. 183, figs. 2, 3; Sharpe, Cat. B. Br. Mus. xii. p. 177; *Fr. africana*, Levaill jun. Expl. Scient. de l'Algér. Atlas, Ois. pl. 7, figs. 1, 1A (1850).

♂ *ad.* (Algeria). Differs from *F. cælebs* in having the head, the sides of neck and the face rich lead-blue, the middle of the back and the rump apple-green, the upper tail-coverts and scapulars lead-blue, and the under parts pale reddish brown, tinged with pale rose, fading on the abdomen to white, washed with brownish rose; flanks pale slate-grey; under wing

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and tail-coverts white ; beak dull plumbeous ; legs pale brown ; iris dark brown. Culmen 0·5, wing 3·5, tail 2·9, tarsus 0·75 inch. The female is undistinguishable from that of *F. cælebs*, except that perhaps it is a trifle greyer.

Hab. Algeria, Morocco, and Tunis, and is said to have occurred near Marseilles.

In its general habits it closely resembles *F. cælebs*, but its song is said to be harsher. It is found in the pine- and oak-groves, and in the olive-gardens, and is said to be by no means shy. It breeds in March, April, and May, placing its nest on the branch of a tree. This latter resembles that of *F. cælebs*, and is neatly and artistically constructed of plant-stems, and plant-down intermixed with hair and feathers, and well lined with plant-down, hair, and feathers. The eggs 4 to 5 in number resemble those of *F. cælebs*.

456. Teydean Chaffinch.

FRINGILLA TEYDEA.

Fringilla teydea, Webb and Berth. Orn. Canar. p. 20, pl. 1, figs. 1, 2 (1836–44) ; Dresser, iv. p. 25, pl. 185 ; Sharpe, Cat. B. Br. Mus. xii. p. 170.

♂ *ad.* (Teneriffe). Entire upper parts rich dark blue, the forehead and lores washed with black ; wings and tail black, margined with slate-blue ; under parts much paler than the upper parts, on the abdomen fading to bluish white ; under tail-coverts white ; bill horn-blue, whitish at the base below ; legs pale horn ; iris brown. Culmen 0·65, wing 3·9, tail 3·3, tarsus 0·9 inch. The female has the upper parts dark greyish brown, the wings and tail dark brown, edged with dull light brown, the under parts dull light brown, washed with slate, the abdomen and under tail-coverts dirty white, the latter washed with buff.

Hab. The peak of Teneriffe at an altitude of 7,000 to 8,000 feet.

It is found only in the upper portions of the peak in the pine-woods and where the pine-woods cease and the brush-covered plateau commences, where it feeds on the seeds of the pines, and it is more frequently found on the southern side of the peak. Its food consists almost entirely of the seeds of the pine (*Pinus canariensis*) and to a small extent only of insects. It is said to be very tame, especially when seeking its food on the ground, and can then be approached quite close. Its song is described by Dr. Koenig as *tschin-tin-tini-vi-vi-vi-vi-vi* and not so melodious as that of the Tintillon. Water is a necessity

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to this bird and it is always found within reach of it. Nidification commences in June and July, and the nest, which is placed in a pine-tree, is constructed of plant-stems, pine-spines, plant-down, and spiders' webs, and well lined with feathers. The eggs, 2 in number, are pale sea-green with pale purplish shell-blotches and dark blackish brown surface-spots collected chiefly at the larger end, and measure 0·96 by 0·68.

457. Brambling.

FRINGILLA MONTIFRINGILLA.

Fringilla montifringilla, Linn. Syst. Nat. i. p. 318 (1766); Naum. v p. 44, Taf. 119; Hewitson, i. p. 194, pl. xlix. figs. 2, 3; Gould, B. of E. iii. pl. 188; id. B. of Gt. Brit. iii. pl. 35; Newton, ii. p. 75; Dresser, iv. p. 15, pl. 184; Sharpe, Cat. B. Br. Mus. xii. p. 178; Saunders, p. 185; Lilford, iv. p. 37, pl. 20.

Pinson d'Ardennes, French; *Tentilhão montez*, Portug.; *Pinzon montañes*, Span.; *Peppola*, Ital.; *Bergfink*, German; *Bergvink*, Dutch; *Noiske Bogfinke, Kvæker*, Dan.; *Bjergfinke*, Norw.; *Bergfink, Norrqvint*, Swed.; *Härkapeippo*, Finn.; *Vyourok*, Russ.; *Vintan*, Lapp.

♀ *ad.* (Sweden). Upper parts glossy blue black, the white bases of the feathers showing occasionally, especially on the nape, lower back, and rump white, slightly varied with black; quills blackish brown, margined with dull white; least wing-coverts orange, median and larger coverts tipped with white, the innermost of the latter marked with orange; a yellowish white spot at the base of the quills; tail blackish brown, with a little white at the base of the outermost feathers; upper tail-coverts ashy-grey, marked with black; sides of the head glossy blue-black; throat and upper breast pale orange; under parts white, the flanks spotted with black, the under tail-coverts tinged with buff; bill horn-blue; feet reddish brown; iris dark brown. Culmen 0·5, wing 3·5, tail 2·4, tarsus 0·7 inch. The female differs in being much more obscurely coloured, and in lacking the black on the head and back, these parts being greyish brown. In the autumn and winter the black in the male is obscured by broad, sandy-buff margins to the feathers, and the margins to the wing and tail-feathers are broader, tinged with orange brown; bill yellow, black at the tip; legs pale brown.

Hab. Northern Europe and Asia from Scandinavia to the Pacific coast, wintering in central Europe, Great Britain, Asia Minor, Northern India, China, and Japan; rarely during severe winters in North Africa.

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In general habits it much resembles the Chaffinch but its note is different, being a harsh *cree, cree* not unlike that of the Greenfinch but louder. In the autumn they collect in large flocks and migrate south, and are then to be met with in England and Scotland, but it is only met with occasionally in Ireland. It feeds during the summer to a large extent on insects, on which its young are also reared, but in the autumn and winter it feeds on berries, seeds of various plants, beech nuts, &c. It breeds in Scandinavia from northern Lapland down to central Sweden, and the fells in the birch zone; and in Northern Siberia and Kamchatka. The nest, which is usually placed on a birch tree from 10 or 12 to 25 feet from the ground is a neat structure, resembling that of *F. cælebs* but larger, and is built of moss, grass, straws, fine rootlets, and lichens, and almost always sheds of the fine paper-like bark of the birch are interwoven on the outside; the lining is usually composed of wool, plant-down, and feathers, and I once took a nest built almost entirely of marsh cotton. The eggs from 4 to 6, less often 7 in number, are usually deposited in May, and resemble those of the Chaffinch, but have generally a greener tinge, and in size average about 0·75 by 0·57 inch.

LINOTA, Bp. 1831.

458. LINNET.

LINOTA CANNABINA.

Linota cannabina, (Linn.) Syst. Nat. i, p. 322 (1766); Naum. v. p. 80, Taf. 121; (Hewitson), i. p. 200, pl. li. fig. 1. (egg); (Gould), B. of E. iii. pl. 191; id. B. of Gt. Brit. iii. pl. 49; Newton, ii. p. 153; Dresser, iv. p. 31, pl. 186; (Sharpe), Cat. B. Br. Mus. xii. p. 240; Saunders, p. 187; Lilford, iv. p. 64, pl. 31.

Linotte, French; *Pintarroxo*, Portug.; *Camacho, Jamas*, Span.; *Montanello, Fanello*, Ital.; *Bluthänfling*, German; *Knew, blasvink*, Dutch; *Tornirisk*, Dan. and Norw.; *Hämpling*, Swed.; *Hamppuvarpunen*, Finn.; *Obuiknovennui-rapoloff*, Russ.

♂ *ad.* (England). Forehead and fore-crown blood-red; the rest of the head and neck brownish grey with dark markings; mantle warm chestnut-brown, the feathers with darker centres; rump paler and marked with white; wings and tail blackish with whitish margins; upper tail-coverts blackish brown with whitish margins; breast rich carmine-red; rest of under parts dull white, the chin with dark stripes; flanks washed with brown; beak horn-colour, brown at base below; legs pale warm brown; iris dark brown. Culmen 0·45, wing 3·15, tail 2·0, tarsus 0·7

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inch. The female is browner and more striped on the upper parts, has the breast and flanks striped with brown and lacks the red on the forehead and breast. In the winter the plumage of the male is duller, and the red on the forehead and breast is obscured by whitish margins to the feathers.

Hab. Europe generally, as far north as the Trondhjem Fjord and Luleå, south into North Africa, west to the Canaries and Madeira, and east through Asia Minor and Persia to Sind, Gilgit, and Turkestan.

In the summer it frequents the outskirts of woods, groves, gardens, and hedgerows, and is often seen on bush-covered hillsides, and in the winter it collects in flocks and roams about the fields in company with other Finches. Though quiet and peaceable it is tolerably wary, and in winter rather shy. It feeds chiefly on seeds especially those of an oily nature, and consumes those of many noxious weeds. Its note is a short, harsh, *geck, gecker*, its song sweet and flute-like; and it is much esteemed as a cage-bird. In March it commences nidification, and its nest, which is placed in a tree, bush, or hedge, occasionally even on the ground, is constructed of straws, bents and rootlets, lined with fine roots, wool, and horsehair. The eggs which are deposited in April and June, two broods being raised in the season, are pale sea-green or blue-green finely spotted and blotched with violet-grey, pale red, and blood-red, and average about 0·71 by 0·54. Asiatic birds are rather greyer and brighter in colour, and have been separated subspecifically under the name of *L. fringillirostris* Bp. and Schl. (*L. bella*, Cabanis). But I cannot consider them as even subspecifically distinct.

459. Twite.

LINOTA FLAVIROSTRIS.

Linota flavirostris (Linn.), Syst. Nat. i. p. 322 (1766); Newton, ii. p. 160; Dresser, iv. p. 59, pl. 191; (Sharpe), Cat. B. Br. Mus. xii. p. 236; Saunders, p. 193; Lilford, iv. p. 66, pl. 32; *Fring. montium*, Gmel., Syst. Nat. i. p. 917 (1788); Naum., v. p. 103, pl. 122; Hewitson, i. p. 203, pl. li. fig. 3; (Gould), B. of Gt. Brit. iii. pl. 50.

Linotte à bec jaune, French; *Pajarel*, Span.; *Montanello forestiero*, Ital.; *Berghänfling*, German; *Fratertje*, Dutch; *Bjergirisk*, Dan.; *Gulnaebbet Irisk*, Norw.; *Gulnäbbad-Hämpling*, Swed.; *Keltanokka varpunen*, Finn.

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♂ *ad.* (Scotland). Crown, hind-neck, and upper parts dark hair-brown with lighter tawny brown margins; rump rose-red; wings and tail blackish brown, the primaries with white, the secondaries with tawny brown margins, the wing-coverts with ochreous tips; the tail-feathers with white margins; supercilium, sides of the face, throat, breast, and flanks tawny buff, the lower throat and breast streaked with blackish brown; rest of the under parts dull white; beak yellowish flesh; legs dark brown; iris hazel. Culmen 0·4, wing 2·95, tail 2·55, tarsus 0·65 inch. The female resembles the male but is paler and lacks the red on the rump. In the winter the light margins to the feathers are broader, the red on the rump of the male is confined to the middle of the feathers, and the bill is greyish yellow.

Hab. Northern Europe; Great Britain; on passage and in winter south to the Mediterranean.

In habits it resembles *L. cannabina* but frequents open localities, and not woods, and is as a rule shy and wild. Its call-note resembles that of the Linnet, but is less harsh, and its song is rather superior to that of the Redpoll. It feeds on insects and seeds of various kinds. Its nest is placed in a low bush or on the ground, and is constructed of fine twigs, bents, rootlets, and wool, lined with hair, fur, or wool. Its eggs, 4 to 6 in number, are usually deposited in May, and are pale blue, marked chiefly at the larger end with dark red, and measure about 0·68 by 0·52.

460. Subsp. Linota brevirostris.

Linota brevirostris, Bp. Comp. List. p. 34 (1838); Hume, and Henders. Lah. to Yark. p. 260, pl. 26; Dresser, iv. p. 65, pl. 192; Oates, F. Brit. Ind. Birds, ii. p. 229; (Sharpe), Cat. B. Br. Mus. xii. p. 238.

Gornuei rapoloff, Russ.

♂ *ad.* (Erzeroum). Differs from *L. flavirostris* in being much paler, the feathers on the upper parts margined with pale brownish buff or buffy white; under wing-coverts white. Culmen 0·33, wing 3·15, tail 2·7, tarsus 0·7 inch.

Hab. Asia Minor to Persia, Turkestan, Mongolia, Tibet, and Manchuria.

In habits it is said not to differ from *L. flavirostris*. I received the nest and four eggs from Erzeroum together with the parent bird. The nest is constructed of fine bents, wool, and plant-down, neatly lined with plant-down and wool together with one or two feathers. The eggs resemble those

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of *L. flavirostris*, but are a trifle paler and the markings are fewer and smaller. In size they average about 0·61 by 0·48.

Junco hiemalis (Linn.), a widely distributed American species has been recorded from North East Siberia, a specimen having been obtained on the Vega expedition.

461. Mealy Redpoll.

LINOTA LINARIA.

Linota linaria (Linn.), Syst. Nat. i. p. 322 (1766); (Naum.) v. p. 173, Taf. 126; Audubon, B. Amer. pl. 375; (Gould), B. of Gt. Brit. iii. pl. 51; Newton, ii. p. 133; Dresser, iv. p. 37, pl. 187; (Sharpe), Cat. B. Br. Mus. xii. p. 245; Saunders, p. 189; Lilford, iv. p. 57, pl. 28; *L. canescens*, (Gould), B. of E. iii. pl. 193; (Hewitson), i. p. 202, pl. li.

Sizerin boréal, French; *Birkenzeisig*, *Bergzeisig*, German; *Organetto*, Ital.; *Barmsijsje*, Dutch; *Graasidsken*, Dan.; *Graasiske*, Norw.; *Gråsiska*, Swed.; *Urpovarpunen*, Finn.; *Tchetchotka*, Russ.

♂ *ad.* (Sweden). Forehead and fore-crown deep blood-red; upper parts generally blackish brown, the feathers margined with pale brown or brownish white, rump much paler and washed with red; wings and tail blackish brown, the former and the middle rectrices margined with white; larger and median wing-coverts tipped with white forming two alar bars; lores and chin black; throat and upper breast rose-pink, the rest of under parts white; flanks streaked with blackish brown; bill dark horn-brown, yellowish at the base; legs and iris dark brown. Culmen 0·38, wing 3·08, tail 2·58, tarsus 0·58 inch. The female resembles the male but is smaller and lacks the red in the plumage. In the winter the feathers have the light margins much broader, the red in the male being almost hidden, and the bill is yellow, tipped with brown.

Hab. The high North of both the Old and New Worlds; migrating South for the winter.

Extremely active and lively in its general habits, it consorts with Titmice and other small birds in the winter, and roves about the groves, woods, and fields where there are trees and bushes in search of food, but in the summer are found in pairs in the open portions of the forests. Its food consists of seed and in the summer of insects of various kinds. Its call-note resembles that of the Canary, and its song is a prolonged trill and a soft twitter; in the winter when in flocks they utter a soft twittering note. It breeds in the high north, and places its nest, which is a neat structure of fine birch-twigs, vegetable

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stems, and moss, carefully lined with plant-down and feathers, in a tree generally about 10 feet from the ground, but rarely on or close to the ground. The eggs from 4 to 6 in number are deposited in May or June and are pale greenish blue sparingly blotched and blurred with dull rufous and measure about 0·71 by 0·5. This species is subject to considerable variation and two subspecies *L. holboelli* (Brehm) and *L. rostrata* (Coues) have been recognised but I cannot consider either as fairly separable.

462. Lesser Redpoll.

LINOTA RUFESCENS.

Linota rufescens (Vieill), Mem. Real. Accad. Sc. Tor. xxiii. Sc. Fis. p. 202 (1816–18); (Gould), B. of Gt. Brit. iii. pl. 52; Newton, ii. p. 146; Dresser, iv, p. 47, pl. 188; (Sharpe), Cat. B. Br. Mus. xii. p. 252; Saunders, p. 191; Lilford, iv. p. 62, pl. 30; *L. linaria*, (Hewitson), i. p. 201, pl. li. fig. 2.

Sizerin cabaret, French; *Volicelo, Pajaro linero*, Span.; *Organetto minore*, Ital.

♂ *ad.* (England). Differs from *L. linaria* in being smaller, in having the upper parts darker and more rufous in tinge, the rump more strongly marked, and the bands on the wing pale warm buff. Culmen 0·4, wing 2·75, tail 2·4, tarsus 0·55 inch. The female is smaller, lacks the red on the rump and breast and has the under parts dull brownish white, the breast, sides, and flanks streaked with dull brown.

Hab. Great Britain and Western Europe, breeding in Great Britain, and possibly also in the northern part of western continental Europe, wintering as a rule further south.

Like the preceding species it is lively and active, rather tame and confiding than otherwise, and is essentially a woodland species, frequenting woods, groves, and bush-covered places, but in the winter may often be seen in the open country in large or small flocks, frequenting alder and birch-trees and keeping up a continual twittering. Its food consists of seeds of various kinds chiefly those of composite weeds, and in the summer to some extent of insects. Its song is clear, rather loud than otherwise and pleasing. Its nest, which is placed on a tree or bush, frequently at a considerable height, and occasionally in the heather, is smaller than that of *L. linaria*, cup-shaped, very neatly constructed of fine twigs, grass-bents, moss, and wool carefully lined with plant-down, sometimes with hair and feathers. The eggs 4 to 6 in number are usually deposited in May and resemble those of *L. linaria*, but are smaller, measuring about 0·61 by 0·47.

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463. Greenland Redpoll.

LINOTA HORNEMANNI.

Linota hornemanni, Holbœll, Natur. Tidskr. iv. p. 395 (1843); Dresser, iv. p. 55, pls. 189, fig. 2, 190; (Sharpe), Cat. B. Br. Mus. xii. p. 256; Ridgw. p. 396; Lilford, iv. p. 59, pl. 29.

Audnutitlingur, Icelandic; *Orpingmiutak*, Greenl.

♂ *ad.* (Greenland). In general coloration resembling, but paler than *L. linaria*, the rump and upper tail-coverts white, unstriped, and washed with rosy red; under parts white, the flanks unstriped, the breast washed with rosy red; bill blackish above and at the tip, yellowish below; legs blackish brown; iris brown. Culmen 0·4, wing 3·35, tail 2·75, tarsus 0·7 inch.

Hab. Spitsbergen, Jan Mayen, Iceland, Northern Greenland, and eastern Arctic America, migrating south to Labrador in winter. Has twice been obtained in England, 2 or 3 times in the Hebrides, and once near Abbeville in France.

In habits it is said to resemble *L. linaria* but its call-note is shrill and not unlike that of the Waxwing. Its nest is usually placed on a small bush, and is constructed of grass-bents, wool, and marsh-cotton, intermixed with lichens, and sparingly lined with feathers. The eggs resemble those of *L. linaria* but are larger, measuring about 0·73 by 0·53, paler, and with fewer and smaller spots.

464. Subsp. Linota exilipes.

Linota exilipes (Coues), Proc. Philad. Acad. 1861, p. 385; Elliot, New and unfig. B. N. Am. pl. 8; Dresser, iv. p. 51, pl. 189, fig. 1; (Sharpe), Cat. B. Br. Mus. xii. p. 254; Ridgw. p. 396.

♂ *ad.* (Siberia). Resembles *L. hornemanni*, but is smaller; forehead and fore-crown red; upper parts greyish striped with blackish grey; rump white washed with rose-red; lores, chin, and a spot on the upper throat black; under parts white faintly striated on the flanks; throat and upper breast washed with rose-red. Culmen 0·35, wing 3·0, tail 2·6, tarsus 0·57 inch.

Hab. Northern Europe, Asia, and America, wandering south in winter, but rarely as far as Continental Europe or the northern border of the United States.

In habits and note the present species does not appear to differ from *L. linaria*, but its eggs resemble those of

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L. hornemanni, being pale sea-green sparingly dotted with pale red and reddish brown, the spots being chiefly collected round the larger end. Compared with those of *L. linaria* they are paler and less marked with red, the spots being much smaller. In size they average about 0·62 by 0·48.

PYRRHOSPIZA, Hodgs., 1844.

465. Redbreasted Rose-Finch.

PYRRHOSPIZA PUNICEA.

Pyrrhospiza punicea, Hodgs. J. A. S. Beng. xiii. p. 953 (1844); Sharpe, Cat. B. Br. Mus. xii. p. 431; Oates, F. Brit. Ind. Birds, ii. p. 211; *P. longirostris*, Prjev. Mongol i Strana Tangut. ii. p. 95, tab. xiv, (1876), *P. humii*, Sharpe, op. cit. p. 433 (1888).

♂ *ad.* (Sikhim). Crown, nape, sides of neck, and upper parts generally deep brown, with dusty brown margins; rump pale carmine; wings and tail dark brown, with indistinct paler margins; forehead, supercilium, sides of the head below the eye, chin, throat, and breast carmine-rose, with silvery white spots; rest of under parts dull brown, striped, chiefly on the flanks, with blackish brown; bill horn-brown, yellow at the base of the lower mandible; legs dark horn; iris dark brown. Culmen 0·72, wing 4·5, tail 3·5, tarsus 0·92 inch. The female has the upper parts duller than in the male, the rump feathers margined with dull green, the under parts pale fulvous, narrowly streaked with black, the breast tinged with buff.

Hab. The Himalayas at elevations of from 10,000 to 17,000 feet, from Kashmir to Kan-su, Tibet, and Western China; is everywhere resident, passing the summer in the higher altitudes, and wintering at lower levels.

I find scarcely anything on record respecting its habits beyond what Prjevalsky gives. He speaks of it as being shy and frequenting rocky places in the mountains, never perching on trees or bushes. Its call-note resembles that of *Passer domesticus*, but is much louder, and its song, which in spring is uttered from a stone or the point of a rock, is pleasing. Stoliczka found a nest made of coarse grass in Rupshu near the Thsomoriri lake, on the ground, in a little bush of the Tibetan furze, the eggs in which were dirty white or greenish with some dark brown spots.

Pale specimens of this species have been described as separable by Prjevalsky under the name of *P. longirostris*, and by Dr. Sharpe under that of *P. humii*, but I am unable to separate this form even subspecifically, and as regards the length

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of the bill, I find this extremely variable. The variation in tone of colour is also considerable, specimens from Sikhim being as a rule darkest, and the red is richest in tinge, and some from Gilgit, Kan-su, and Tibet are the palest.

CARPODACUS, Kaup, 1829.

466. Caucasian Rose-Finch.

CARPODACUS RUBICILLA.

Carpodacus rubicilla (Güld), Nov. Comm. St. Petersb. xix. p. 463, Tab. xii. (1775) ; (Gould) B. of Asia, v. pl. 25 ; Dresser, iv. p. 69, pl. 193 ; Sharpe, Cat. B. Br. Mus. xii. p. 399 ; *Coccothraustes caucasicus*, Pall. Zoogr. Ross. As. ii. p. 13 (1811).

♂ *ad.* (Caucasus). Mantle and hind-neck dusky brown, tinged with deep rose-red, the back with indistinct blackish brown stripes ; rump and upper tail-coverts deep rose-red ; wings and tail dark brown, with paler margins, the former tinged with rose-red ; feathers at the base of the bill blackish ; crown, sides of head, throat, and under parts to the lower abdomen rich scarlet, spotted with silvery white ; ear-coverts tipped and glossed with silvery grey ; lower abdomen and under tail-coverts rosy red, the latter striped with dark brown ; flanks tinged with brownish grey ; bill light yellowish horn ; legs and iris dark brown. Culmen 0·55, wings 4·6, tail 3·95, tarsus 0·92 inch. The female has the upper parts pale earthy brown, the forehead tinged with yellowish buff, the feathers with dark central lines ; wings and tail dark brown, with ashy-brown margins ; under parts ashy buff, with a yellowish tinge, and with dark stripes ; under tail-coverts buffy white.

Hab. Caucasus.

But little is known respecting the habits of this bird except that it inhabits the higher portions of the mountain ranges, frequenting the banks of mountain torrents, feeding on berries, chiefly those of *Hypophæa rhamnoides*. Its nest and eggs are as yet unknown.

467. Subsp. Carpodacus severtzovi.

Carpodacus severtzovi, Sharpe, P. Z. S. 1886, p. 354 ; id. Cat. B. Br. Mus. xii. p. 400 ; Tacz. F. O. Sib. O. p. 658 ; Oates, F. B. Ind. Birds, ii. p. 220.

♂ *ad.* (Tibet) Differs from *C. rubicilla* in being considerably paler, the upper parts being pale ashy brown, tinged with rose red, the rump rose-red, the under parts much paler rose-red, not scarlet, the lower abdomen and

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under tail-coverts ashy white, tinged with rose. Culmen 0·67, wing 4·5, tail 3·45, tarsus 1·0 inch. The female differs from that of *C. rubicilla* in being much paler.

Hab. Turkestan, Gilgit, Ladak, Kashgar, Tibet, Tsaidam. In the summer it inhabits the mountains at from 10,000 to 12,000 feet elevation, descending lower for the winter.

In habits it does not differ from *C. rubicilla*. A nest and eggs stated to be those of this species were taken by Dr. Stoliczka in the province of Rupshu, Western Tibet, on the 7th July. The nest, which was placed on the ground under a furze-bush, was constructed of coarse grass, lined with goat's hair and a little vegetable fibre, and the eggs are pale greenish blue with a few good sized spots and many tiny specks of black or blackish brown, confined entirely to the broader half of the egg; in size they average about 0·98 by 0·69.

468. Subsp. Carpodacus rubicilloides

Carpodacus rubicilloides, Prjev. Mongol i Strana Tangut ii. p. 90, Tab. xii. (1876); Sharpe, Cat. B. Br. Mus. xii. p. 402; Bianchi and Berez. Plitz. Kan-su, &c. p. 135.

♂ *ad.* (Kan-su). Resembles *C. rubicilla*, but is smaller, the upper parts are much more boldly striped, and the silvery white markings are much narrower and less tinged with rose; bill dark horn above, yellowish below; legs dark horn; iris brown. Culmen, 0·45, wing 4·04, tail 3·5, tarsus 0·9 inch. The female has the upper parts brownish grey, striped with blackish brown, paler on the rump; wings and tail dark brown, with paler external margins; under parts yellowish white, narrowly striped with blackish brown.

Hab. Mountains of Kan-su, the plateau of Amdos, probably also the mountains of Tibet.

It inhabits open and bush-covered localities high up in the mountains, and is tolerably wary. Its flight is high and undulating, and its note resembles the whistle of *Pyrrhula major*. There is nothing on record respecting its nidification.

469. Stoliczka's Rose Finch.

CARPODACUS STOLICZKÆ.

Carpodacus stoliczkæ (Hume), Str. Feath. 1874, p. 523; Sharpe, Cat. B. Br. Mus. xii. p, 403; id. 2nd Yarkand Miss. p. 43, pl. vi. Bianchi and Berezovski, Ptitz. Kan-su, &c. p. 134.

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♂ *ad.* Forehead, lores, region round the eye, and chin deep rose red; fore-crown and supercilium silvery rose; hind-crown, nape, and upper parts generally pale sandy or ashy brown, unstriped, the rump pale rose; wings and tail ashy brown, with narrow external margins; throat pale rose, with a silvery tinge; rest of the under parts dull white, the breast washed with pale rose. Culmen 0·4, wing 3·7, tail 2·95, tarsus 0·75 inch. The female differs in lacking all trace of red in the plumage, the general colouration being sandy brown, paler on the rump and under parts. This species approaches nearest to *C. sinaiticus*, but has the upper parts paler and unstriped, the under parts much whiter, and tinged with rose only on the throat and breast.

Hab. Yarkand to North-west Kan-su and the Amdos plateau.

I find no particulars of the habits or nidification of this species.

470. Scarlet Finch.

CARPODACUS ERYTHRINUS.

Carpodacus erythrinus (Pall.), Nov. Comm. Petrop. xiv. p. 587, pl. 23, fig. 1 (1770); Naum. iv. p. 418, Taf. 113, figs. 1. 2; Gould, B. of Gt. Brit. iii. pl. 43; Newton, ii. p. 174; Dresser, iv. p. 75, pl. 195; Sharpe, Cat. B. Br. Mus. xii. p. 391; Oates, F. Brit. Ind. Birds, ii. p. 219; Saunders, p. 197; Lilford, iv. p. 72, pl. 35; *C. erythrinus grebnitskii*, Stejn. Bull. U.S. Nat. Mus. No. 29, p. 265 (1885); Bianchi and Berezovski, Ptitz. Kan-su, &c. p. 133.

Karmin-Gimpel, German; *Verdone bastardo*, Ital.; *Tchetchevitza*, Russ.

♂ *ad.* (Russia). Upper parts ashy brown, indistinctly darker striped, except on the rump, and tinged with rose-red; crown, nape, and rump brighter, and carmine rose; wings and tail brown, narrowly margined with dull rose; the wing-coverts more broadly tipped with dull rose, forming a double alar bar; chin, throat, and upper breast carmine, the rest of the under parts dull white, tinged with rose; bill greyish horn, darker above; legs horny brown; iris hazel brown. Culmen 0·5, wing 3·3, tail 2·5, tarsus 0·75 inch. The female has no red in the plumage, but has the upper parts ashy brown, tinged with olive, the stripes on the head clearer than on the back, the wing-coverts tipped with yellowish white, and the under parts greyish white, striped with brown, the middle of the abdomen nearly white.

Hab. Eastern and north-eastern Europe; of accidental occurrence in western and southern Europe, and Great Britain; Asia through Siberia to Kamchatka; in winter south to China, Manchuria, Mongolia, Burma, and India.

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In general habits it somewhat resembles the Linnet, is often seen in bushes and low trees near water, and in gardens, and does not seem to seek its food on the ground. Its food consists of the seeds of trees and bushes, less often those of plants, and of tender buds. Its call-note is a clear whistle, and its song, which is uttered from the top of a bush or tree, pleasing and characteristic. The nest, which is placed on a low tree or bush, is rather loosely constructed of dry bents and rootlets, lined with a few horse hairs, and the eggs, 4 to 6 in number, are deposited late in May and are rich blue, sparingly dotted at the larger end with dark red and blackish brown, and measure about 0·79 by 0·6. Specimens from Eastern Asia are as a rule brighter in tinge of red, and have been separated subspecifically under the name of *C. grebnitskii*, but I have specimens from the Ural and Asia Minor which are as richly coloured as any from Eastern Asia.

471. Sinaitic Rose-Finch.

CARPODACUS SINAITICUS.

Carpodacus sinaiticus, Bp. and Schlegel, Monogr. Lox. p. 17, pl. 18 (1850); Dresser, iv. p. 73, pl. 194; Sharpe, Cat. B. Br. Mus. xii. p. 403.

♂ *ad.* (Sinai). Feathers at the base of the bill deep rosy carmine; fore-crown, sides of head and throat rose-carmine, the feathers pointed, and glossed with silvery white; central and hind-crown duller red tinged with brownish grey; back smoky brownish grey indistinctly darker striped and washed with red; rump rose-carmine; wings and tail dull brown with paler external margins, lesser wing-coverts tinged with red; under parts paler rose-carmine, the middle of the abdomen and under tail-coverts nearly white; bill light horn with a faint red tinge; legs light brown; iris dark brown. Culmen 0·42, wing 3·5, tail 2·72, tarsus 0·8 inch. The female is greyish isabelline brown, darker above and striped with brown, and paler on the under parts.

Hab. Southern Palestine, Arabia-Petraea, and the peninsula of Sinai.

In its general habits it is lively but somewhat shy, frequenting rocky localities on the sunny side of mountains, and is generally to be seen on the ground, and not on bushes. It feeds on small seeds. I do not find anything on record respecting its nidification.

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472. Three-banded Rose-Finch.

CARPODACUS TRIFASCIATUS.

Carpodacus trifasciatus, Verreaux, Nouv. Archiv. du Mus. Bull. vi. p. 30 (1870) viii. pl. 4, fig. 3 ; (David and Oust.) Ois. Chine, p. 353, pl. 93 ; Sharpe, Cat. B. Br. Mus. xii. p. 404 ; Bianchi and Berezov. Ptitz. Kan-su, etc. p. 138, tab. iii. figs. 1, 2.

♂ *ad.* (Kan-su). Upper parts crimson, the dorsal feathers margined with pale grey, forehead and fore-crown striped with silvery grey ; wings black, the secondaries broadly margined externally with white ; wing-coverts and scapulars broadly tipped with white ; upper tail-coverts and tail blackish brown ; under parts dull crimson, brighter on the lower breast ; sides of the head, chin, and throat with silvery white stripes ; flanks greyish white, middle of abdomen nearly white ; under tail-coverts slaty blackish tipped with dull white, bill brown, the lower mandible whitish ; legs greyish red ; iris chestnut red. Culmen 0·5, wing 3·4, tail 3·03, tarsus 0·85 inch. The female lacks all trace of red in the plumage ; upper parts dull slate-grey striped with blackish except on the rump, the back slightly, the rump more clearly washed with golden yellow ; wings and tail slaty blackish, the red and white on the male replaced by yellow ; under parts dull ashy grey with darker stripes, the middle of the abdomen dull ashy white ; the sides of the head slightly, and the breast richly washed with golden yellow.

Hab. Western Szechuen and Kan-su.

Nothing appears to be known of the habits of this Rose-Finch except that it frequents the bush-covered portions of the mountains, where it feeds on the seeds of the wild plants.

473. Brandt's Rose-Finch.

CARPODACUS RHODOCHLAMYS.

Carpodacus rhodochlamys (Brandt), Bull. Sci. Acad. Imp. St. Petersb. 1843, p. 27 ; Bp. and Schlegel, Monogr. Lox. p. 22, pl. 35 ; Severtz. Turk. Jevot. p. 64 ; Sharpe, Cat. B. Br. Mus. xii. p. 406 ; *Propasser rhodometopus*, Biddulph, Ibis, 1881, p. 156, pl. vi.

♂ *ad.* (Turkestan). Forehead and a broad supercilium silvery white, washed with rose ; crown and upper parts generally rosy brown with darker stripes, the rump rosy red, unstriped ; wings and tail dark brown with broad internal rosy whitish external margins to the wing-feathers, and narrow ones on the tail ; sides of head, chin, and throat, silvery rose, the feathers pointed ; lores and a band through the eye rosy brown ; rest of the under parts rosy red, the under tail-coverts paler and striped with brown ; bill greyish brown, whitish below ; legs brownish flesh colour ; iris

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light brown. Culmen 0·5, wing 3·65, tail 3·05, tarsus 0·95 inch. The female has no red in the plumage but is ashy brown above, ashy white below, clearly streaked with blackish brown; wings and tail brown with paler margins; supercilium indistinct, pale buff mottled with brown.

Hab. The Altai, Alatau, and Tian-shan ranges; Turkestan south to the Iskander-kul and Zamin, east to the spurs of the mountains of Kashgar.

Respecting the habits of this bird there is very little on record, and I find no description of its nidification.

474. Subsp. Carpodacus grandis.

Carpodacus grandis, Blyth, J.A.S.B. xviii. p. 810 (1849); Gould, B. of As. v. pl. 26; Sharpe, Cat. B. Br. Mus. xii. p. 404; Oates, F. Brit. Ind. Birds, ii. p. 216; *C. sophia*, Bp. and Schlegel, Mon. Lox. p. 22, pl. 34.

♂ *ad.* (Himalayas). Differs from *C. rhodochlamys* merely in having the forehead like the rest of the crown and not silvery rose. Culmen 0·5, wing 3·6, tail 3·1, tarsus 0·85 inch. The female is indistinguishable from that of *C. rhodochlamys*.

Hab. North-east Afghanistan and the Himalayas from Gilgit to Garhwál and Kumaun, but it is doubtful if it occurs in Sikhim.

Is common near Gilgit, and found in summer to an elevation of about 9,000 feet, descending in winter to 5,000 feet or below that. There is said to be no difference in the plumage between winter and summer. I find no description of its nidification.

475. The Rose-Finch.

CARPODACUS ROSEUS.

Carpodacus roseus (Pall.), Reis. Russ. Reichs, iii. p. 699 (1776); (Naum.) iv. p. 418, Taf. 113, fig. 3; (Gould), B. of E. iii. pl. 207; id. B. of Asia, v. pl. 33; (Tacz.) F. O. Sib. O. p. 656; Sharpe, Cat. B. Br. Mus. xii. p. 407; Bianchi and Berezovski, Ptitz. Kan-su, etc. p. 136.

♂ *ad.* (E. Siberia). Forehead and fore-crown silvery white tinged with rose; rest of crown and nape pale rosy red; back rose-red striped with blackish brown; lower back and rump rose-red; wings and tail dark brown washed with red and margined with rosy white or pale rose; median and greater coverts tipped with rosy white; forming a double alar bar; cheeks, throat, and sides of the neck rosy red closely spotted with silvery white; rest of under parts deep rosy red, the middle of the

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abdomen nearly white; bill brown, the lower mandible greyish; legs reddish grey; iris chestnut. Culmen 0·45, wing 3·55, tail 2·7, tarsus 0·75 inch. The female has the upper parts greyish brown tinged with rose and striped with dark brown, the under parts brownish white tinged with rose and streaked with dark brown, rump rosy red less streaked than the back; wings and tail as in the male but less washed with rose.

Hab. Siberia from the Yenesei to the Pacific coast and Saghalien; in winter visiting Mongolia, Japan, and China.

It frequents the outskirts of the forests and bushes situated in the middle of fields, and in autumn is met with in the woods, where it feeds on conifer seeds. In winter it is common in Corea. Czekanowski took the eggs of this bird not far north of Irkutsk, but I do not find any description of either the nest or eggs.

476. Vinous Rose-Finch.

CARPODACUS VINACEUS.

Carpodacus vinaceus, Verr. Nouv. Archiv. Mus. Bull. vi. p. 39 (1870), viii. pl. iv. figs. 1, 2; (David and Oust.) Ois. Chine, p. 356, pl. 96; Sharpe, Cat. B. Br. Mus. xii. p. 416; Bianchi and Berezovski, Ptitz. Kan-su, p. 140.

♂ *ad.* (Kan-su). Differs from *C. rhodochrous* in being much darker above, deep red with indistinct dark markings, the rump much brighter red; wings and tail blackish brown, the two innermost secondaries with a silvery terminal patch; supercilium dark rose-pink; under parts deep red with indistinct dark markings, the deep rose-red with fine dark stripes; bill dark brown; legs reddish grey; iris chestnut red. Culmen 0·48, wing 2·7, tail 2·25, tarsus 0·75 inch. The female is duller and browner than that of *C. rhodochrous*, the striping is finer, and it lacks the ochraceous supercilium.

Hab. Southern Kan-su and Szechuen.

It is resident in the mountains of Szechuen, frequenting bush-covered localities, feeding on buds and berries. When disturbed it flies off, uttering a plaintive, silvery note. Its nest and eggs appear to be unknown.

477. Hodgson's Rose-Finch.

CARPODACUS PULCHERRIMUS.

Carpodacus pulcherrimus (Hodgson) in Gray's Zool. Misc. p. 85 (1844); (Moore), P.Z.S. 1855, p. 216; Sharpe, Cat. B. Br. Mus. xii. p. 429; (Oates), F. Brit. Ind. Birds, ii. p. 215; *C. davidianus*, Milne-Edwards, Nouv. Archiv. Mus. i. p. 19, pl. 2, fig. 2 (1864); (David and Oust.) Ois. Chine, p. 354, pl. 95.

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♂ *ad.* (Himalayas). Forehead, crown, nape, and upper parts generally hair-brown, tinged with grey on the back, broadly striped with blackish brown; rump pale rose almost unstriped; wings and tail dark brown with paler margins; supercilium and cheeks silvery rose; under parts pale rose, the dark bases of the feathers showing through on the throat and breast; lower abdomen paler; flanks striped with dark brown; bill horn-brown the lower mandible greyish, legs rosy grey, iris reddish brown. Culmen 0·42, wing 3·02, tail 2·57, tarsus 0·75 inch. The female has the upper parts fulvous brown streaked with blackish brown, under parts ashy white tinged with fulvous and closely streaked with dark brown, the supercilium indistinctly fulvous, mottled with brown.

Hab. The Himalayas from Kumaun to Sikhim, S.E. Tibet, S.E. Mongolia, the Utai-shan mountain range, Central and North China to Ordos.

Is found in the more elevated portions of the mountains and is resident, frequenting both bushes and trees, feeding on buds and small seeds. Its nest, which is placed in a bush, is constructed of fern leaves and grass-bents, lined with hair and feathers, and is neatly formed and cup-shaped. The eggs, 5 in number, are rich turquoise-blue spotted with brown. Its call-note is a low, plaintive whistle, and its song pleasing but little varied.

Three other species of *Carpodacus* may very probably occur within the Palæarctic area, though they have not yet been obtained there. These are *Carpodacus rhodochrous* (Vigors) which inhabits the Himalayas from Dharmsala to Nepal, *C. rhodopeplus* (Vigors) which inhabits the Himalayas from Garhwál to Sikhim, and *C. verreauxi* (David) which has been obtained in the elevated mountain valleys above Moupin.

478. Edwards's Rose-Finch.

CARPODACUS EDWARDSI.

Carpodacus edwardsi Verr. Nouv. Arch. Mus. Bull. vi. p. 39 (1870), viii. pl. 3, fig. 4; Sharpe, Cat. B. Br. Mus. xii. p. 418; (David and Oust.) Ois. Chine, p. 355, pl. 94; (Oates), F. Brit. Ind. Birds, ii. p. 218; Bianchi and Berezovski, Ptitz. Kan-su, etc. p. 139; *Propasser saturatus*, Blanf. J.A.S.B. xli. Pt. ii. p. 168, pl. viii. (1872).

♂ *ad.* (Sikhim). Upper parts brown washed with crimson, the back and scapulars streaked with black; forehead, crown, and nape dull crimson with black streaks; lores and sides of head dull crimson; supercilium, cheeks, chin, and throat rose-pink; breast dark rose, rest of under

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parts pink all finely streaked with black; beak brown above, grey below; legs greyish red, iris chestnut red. Culmen 0·5, wing 3·25, tail 2·55, tarsus 0·85 inch.

Hab. The Himalayas from Nepal to Bhutan, S.W. Kan-su, and Szechuen.

It is usually found at high elevations, about 10,000 feet, in the mountains. In its habits and note it resembles *C. pulcherrimus*, but nothing is known respecting its nidification.

479. White-browed Rose-Finch.

CARPODACUS THURA.

Carpodacus thura, Bp. and Schleg. Mon. Lox. p. 21, pl. 23 (1850); (Moore), P.Z.S. 1855, p. 215, pl. 113; (David and Oust.) Ois. Chine, p. 357; Sharpe, Cat. B. Br. Mus. xii. p. 425; (Oates), F. Brit. Ind. Birds, ii. p. 213; *C. dubius*, Prjev. Mongol i Strana Tangut. ii. p. 92, tab. xiii. (1876); Sharpe, tom. cit. p. 427; *Propasser blythi*, Biddulph, Ibis, 1882, p. 283, pl. ix.

♂ *ad.* (Sikhim). Lores and feathers round the base of the bill crimson, those on the forehead with silvery tips; a broad supercilium, cheeks, ear-coverts, chin, and throat rose-pink striped with silvery white; a broad band behind the eye blackish; crown, nape, and upper parts generally dark brown boldly streaked with blackish; rump rose-pink; wings and tail blackish brown, the quills margined with rosy white or rose-buff; wing coverts margined and tipped with dull pink; under parts rose pink, the lower abdomen whitish; under tail-coverts blackish, margined with rose; bill brown; legs grey; iris chestnut-brown. Culmen 0·48, wing 3·3, tail 2·9, tarsus 0·9 inch. The female has the red replaced by yellowish, the cheeks and ear-coverts pale rufous streaked with blackish, the feathers at the base of the upper bill buff marked with black; chin, throat, breast, and flanks pale rufous streaked with black; abdomen buffy white; under tail-coverts blackish margined with buffy white.

Hab. Gilgit, Nepal, Sikhim, Tibet, Alashan, Kan-su, and Amdos.

It inhabits the more elevated portions of the mountains, and has been met with at 11,000 feet and above. It frequents rhododendron bushes, grassy slopes, thickets, on the banks of rivers, and juniper bushes. Its song is very weak, but its call- or alarm-note is unpleasant and somewhat resembles the syllables *brijj, brijj, brijj*. Mandelli obtained a nest at Dolaka in Nepal in August which was built in a thorn bush, cup-shaped, and constructed of fine grass, coated exteriorly with brown moss, and lined with white fur. The eggs, 3 in number,

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are dull greenish blue, sparingly marked with brownish grey, and measure about 0·87 by 0·65.

Carpodacus ambiguus (Hume) Str. Feath. ii. p. 326 (1874), which may possibly occur within the Palæarctic area, is a subspecies differing from *C. thura* in the absence of the silvery rose on the forehead and supercilium, and of the silvery markings on the throat. Only one male, which was obtained in Garhwal, is known.

ERYTHROSPIZA, Bp. 1832–41.

480. Crimson-Winged Bullfinch.

ERYTHROSPIZA SANGUINEA.

Erythrospiza sanguinea (Gould), P. Z. S. 1837, p. 127; id. B. of Asia, v. p. 28; Dresser, iv. p. 91, pl. 197; (Sharpe), Cat. B. Br. Mus. xii, p. 280; (id.) 2nd Yark. Miss. Aves, p. 34, pl. v.; *E. phœnicoptera*, Bp. Comp. List. p. 34 (1838); *E. rhodoptera* (Licht.), Nomencl. Av. p. 48 (1854); Radde Orn. Cauc. p. 167.

♂ *ad.* (Asia Minor). Crown dull blackish, with slightly paler margins, the sides of the crown, throat and hind-neck sandy buff; lores and sides of the head at the base of the bill carmine-red; upper parts dull umber-brown, with paler margins, the upper tail-coverts rose-pink; quills and larger wing-coverts dark brown, externally margined with rich rose or carmine-red, the inner secondaries tipped with white; outer rectrices white, the shafts brown, remainder dark brown slightly tipped with white; throat and flanks pale umber-brown, with dark centres; middle of breast, abdomen, under tail, and wing-coverts white, tinged with rose; bill brownish; legs light brown; iris dark brown. Culmen 0·52, wing 4·15, tail 2·5, tarsus 0·78 inch. Female duller in colour, the crown-feathers with broader sandy buff margins, the under parts with the white more extended, and the red in the plumage paler.

Hab. Palestine, Asia Minor, the Caucasus, Persia, Turkestan, and Yarkand; of doubtful occurrence in Algeria and Arabia.

Appears to be resident throughout its range, passing the summer at considerable altitudes in the mountains, descending down to the plains in the winter. It frequents trees and bushes as well as the rocks, and is said to be somewhat shy and restless in its general habits. It is not found in the woods, but where trees and bushes are sparsely distributed. The only record of its nidification is that of Mr. Cochrane, who found a nest containing one egg near the cedars of Lebanon on the 24th May, 1864, and shot the parent bird, which he presented to Canon Tristram. The nest, which was placed in a tree,

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resembled that of a Greenfinch, and the egg, which is now in my collection, is white with a faint greyish sea-green tinge, very minutely dotted, chiefly at the larger end, with grey, and measures 0·87 by 0·60.

481. Desert Bullfinch.

ERYTHROSPIZA GITHAGINEA.

Erythrospiza githaginea (Licht.), Verg. Doubl. p. 24 (1823), Gould, B. of E. iii. pl. 208 ; Dresser, iv. p. 85, pl. 196 ; Shelley, B. of Egypt, p. 155, pl. v. ; Sharpe, Cat. B. Br. Mus. xii. p. 284 ; Oates, F. Brit. Ind. Birds, ii. p. 221.

Trombettiere, Ital. ; *Pispo, Gorrion colorado, Pajaro moro* in the Canaries.

♂ *ad.* (Canaries). Crown and sides of the head delicate ash-grey, on the nape merging into brown ; back and scapulars pale brown, tinged with pink ; rump and upper tail-coverts brownish pink, the latter margined with carmine ; wings dark brown, the feathers externally margined with pink and carmine, the inner quills tipped with light brown ; rectrices dark brown, margined with carmine towards the tip ; under parts pinkish grey, the throat, breast, and abdomen feathers slightly tipped with carmine ; flanks buffy grey ; beak bright red ; iris brown ; legs brownish fleshy. Culmen 0·4, wing 3·4, tail 2·15, tarsus 0·7 inch. Female differs from the male in being duller, and less rosy in tint. In the winter the beak is yellow, the upper mandible tinged with brown.

Hab. The Canaries, rare in Southern Europe, but tolerably common in N. Africa ; Palestine, Persia, Afghanistan, Baluchistan, Sind, Rajputana, and the Gurgaon district in the Punjab.

Frequents desert, sterile, stony localities and is a resident almost throughout its range, collecting in winter in flocks and visiting fields in search of its food, which consists chiefly of seeds of various plants. In its general habits it is tame and confiding, not being subject to persecution. Its note resembles the sound of a small penny trumpet, is sometimes loud and clear, at others prolonged and harsh, and it also utters a harsh *kä, kä, kä*, and a cackling call-note *kek-kek, kek-keheck*, and its alarm note is a loud *schak, schak*.

It breeds late in February or early in March, and the nest, which is constructed of fine roots and grass-bents, occasionally lined with hair or feathers, is placed on the ground or in the cleft of a rock. The eggs, 4 to 5 in number, are pale bluish white, paler than those of *Pyrrhula europæa*, sparingly dotted, chiefly at the larger end, with dull red and blackish brown, and measure about 0·79 by 0·56.

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BUCANETES, Cab., 1850.

482. Persian Desert Bullfinch.

BUCANETES OBSOLETUS.

Bucanetes obsoletus (Licht.), in Eversm. Reise, Anhang. p. 132 (1823); (Gould), B. of As. v. pl. 29; Dresser, ix. p. 193, pl. 675; (Sharpe), Cat. B. Br. Mus. xii. p. 282.

Timochuk, Turki.

♂ *ad.* (Transcaspia). Upper parts pale sandy brown, rump paler, upper tail-coverts darker and tinged with rufous; under parts paler, the abdomen nearly white; lores, a narrow space at the base of the bill, and a frontal line black; quills black, margined with white, the secondaries and wing-coverts broadly margined with bright rose; rectrices black, the middle ones broadly, and the rest narrowly margined with white; bill black; legs fleshy brown; iris brown. Culmen 0·5, wing 3·5, tail 2·45, tarsus 0·7 inch. In the winter the plumage is greyer, the quills and tail margined with buffy white, and the bill yellowish. The female is paler in coloration, and has the wings more faintly marked with rose-red, and the beak dark horn, not black.

Hab. Syria, Transcaspia, Persia, Afghanistan, Turkestan, east to the northern bend of the Hoang-ho river in Chinese Mongolia.

Appears to be resident throughout its range and frequents plains or low hills, clayey, sandy, or stony localities scantily covered with grass or low bushes, never far from water, and is also to be met with in gardens, on the banks of brooks, and tamarisk patches in the desert. It feeds exclusively on small seeds, and its song, which may be heard from the middle of February to the end of May, is sweet and melodious. Its call-note resembles the syllables *fink*, *fink*, or *pink*, *pink*, in tone rather faint and soft.

It breeds twice in the season, in May and July, and its nest, which is placed on a bush or tree, is constructed of twigs and fibres, lined with fine vegetable fibres, horsehair, plant-cotton, or wool, and is sometimes loosely, at others neatly constructed. The eggs, 4 to 6 in number, are pale bluish grey, spotted and streaked, chiefly round the larger end, with fine purplish brown, and measure about 0·770 by 0·575.

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483. Mongolian Desert Bullfinch.

BUCANETES MONGOLICUS.

Bucanetes mongolicus (Swinhoe), P.Z.S. 1870, p. 447 ; (David and Oust.) Ois. Chine, p. 349, pl. 97 ; Dresser, ix. p. 197, pl. 676 ; Sharpe, Cat. B. Br. Mus. xii. p. 287 ; (Oates), F. Brit. Ind. Birds, ii. p. 222 ; "*B. incarnatus* Severtz." ; Dode, P.Z.S. 1871, p. 480 ; Gould, B. of As. v. pl. 30.

Tagh-Timochuk, Turki ; *Che-chao, Sseu-cheung*, Chinese.

♂ *ad.* (Turkestan). Upper parts pale hair-brown, dorsal feathers centrally darker ; rump and upper tail-coverts rose-red ; quills dark brown, externally margined with rosy white, the secondaries broadly margined and tipped with white ; larger and median wing-coverts broadly margined with buffy white and rose-red ; rectrices dark brown, margined with buffy white ; under parts buffy white, washed with bright rose-red ; bill yellowish brown ; legs light brown ; iris dark brown. Culmen 0·45, wing 3·5, tail 2·25, tarsus 0·7 inch. The female is duller, and less rose-tinted. The young male resembles the adult female, but has the larger wing-coverts brownish red, without white margins, and the median coverts with very narrow white margins. The young female has scarcely any red in the plumage, the breast only being faintly tinged with rose.

Hab. Transcaspia, Afghanistan, Turkestan, and the Himalayas to N.E. Kan-su and N.W. China.

Like the preceding species it frequents sandy plateaus, clayey hills, and stony places, and is chiefly resident, though in some parts to some extent migratory. and feeds on small seeds of various kinds, frequently those of saline plants. Its usual note resembles the syllables *tuck, tuck, tuck*, and its song is sweet and melodious, owing to which it is a favourite cage-bird. On the ground it runs swiftly and with ease, and its flight is swift and strong. It breeds in May, and its nest, which is placed on the ground, in a bush or a tree, is constructed of dry plant-stems, lined with goat's hair. The eggs are greenish white, marked at the larger end with a few blackish spots and lines, and measure from 0·82 to 0·86 by 0·54 to 0·58.

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URAGUS, Keys and Blas., 1840.

484. Long-tailed Rose-Finch.

URAGUS SIBIRICUS.

Uragus sibiricus (Pall.), Reis. Russ. Reichs, ii. Anhang. p. 711 (1771); David and Oust. Ois Chine, p. 357; Gould, B. of As. v. pl. 27; Sharpe, Cat. B. Br. Mus. xii. p. 464; Dresser, ix. p. 205, pl. 678; Tacz. F. O. Sib. O. p. 663; *U. caudatus* (Pall.), Zoogr. Ross. As. ii. p. 10, Tab. 37 (1811); *U. longicaudus* (Temm.), Man. d'Orn. i. p. 340 (1820); (Gould), B. of E. iii. pl. 205.

♂ *ad.* (E. Siberia). Forehead and lores rich rose-red, the rest of the head silvery white, tinged with rose; back rose-red striped with dark brown, with silvery white margins; rump and upper tail-coverts rosy red; quills blackish margined (more broadly on the secondaries) with white; wing-coverts blackish, broadly tipped with white; the lesser coverts tinged with rosy-red; outer rectrices white, middle rectrices blackish, margined with white; underparts rosy red, the abdomen white, tinged with rose; throat and neck silvery white, tinged with rose, the feathers lanceolate; under tail-coverts pale rosy red; bill horn-brown. paler below; legs reddish grey; iris brown. Culmen 0·38, wing 3·1, tail 3·6, tarsus 0·65 inch. In the summer the male is more richly tinged with rosy red, and the margins to the feathers are narrower. The female has the upper parts greyish brown, striped with dark brown, the rump and upper tail coverts unstriped and washed with rose, under parts brownish ash, nearly white on the abdomen, the throat and breast striated, with blackish brown, the flanks indistinctly striped and tinged with rose.

Hab. Siberia from the Ural range to the Pacific; Turkestan, Mongolia, Manchuria, and N. China.

Frequents the sunny bush-covered mountain-slopes and bushes on the banks of rivers and streams, and is not a forest-loving species. Its food consists of small seeds of various kinds of plants. Throughout its range it is partly migratory, wandering south in the autumn, and partly resident. Its alarm-note is a low *fit, fit, fit,* and its song, though low, is melodious and prolonged. Its nest is usually placed in the fork of a bush, near the main stem, and is constructed of bents and plant-fibres, lined with bents, fur, horsehair, down, and feathers, and is neat and artistic in shape. The eggs, 4 to 6 in number, are usually deposited in May, and are rich blue, sparingly spotted, chiefly at the larger end, with black, and vary in size from 0·67 by 0·55 to 0·77 by 0·55 inch.

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485. Subsp. Uragus Sanguinolentus.

Uragus sanguinolentus (Temm. and Schlegel), Faun. Jap. Aves, pls. 54, 54B (1850); David and Oust. Ois. Chine, p. 358; Sharpe, Cat. B. Br. Mus. xii. p. 466; Tacz. F. O. Sib. O. p. 69.

♂ *ad.* (Japan). Differs from *U. sibiricus* in being smaller, darker, and much more richly coloured, the breast and abdomen being bright rose-red, almost carmine. Culmen 0·35, wing 2·75, tail 2·86, tarsus 0·62 inch. The female is smaller and darker than that of *U. sibiricus*, and is tinged with warm reddish brown.

Hab. Eastern Siberia, Dauria, the Ussuri country, the islands of Askold and Saghalien, the Kuriles, Japan, Manchuria, and N. China.

In habits it does not differ from *U. sibiricus*, of which it is a brighter coloured smaller form, and its nest and eggs are probably also similar, but I find no record of its nest having been found.

It is possible that *Uragus lepidus*, David and Oust, (*Ois. Chine*, p. 359) may occur in Mongolia.

PYRRHULA, Briss., 1760.

486. The Bullfinch.

PYRRHULA EUROPÆA.

Pyrrhula europæa, Vieill. Nouv. Dict. iv. p. 286 (1816); Newton, ii. p. 166; Dresser, iv. p. 101, pl. 199; Sharpe, Cat. B. Br. Mus. xii. p. 447; Saunders, p. 195; *P. vulgaris*, Temm. Man. d'Orn. i. p. 338 (1820); Naum. iv. p. 383, Taf. iii.; Gould B. of E. iii. pl. 209; id. B. of Gt. Brit. iii. pl. 41; Hewitson, i. p. 211, pl. liv. fig. 1; Lilford, iv. p. 68, pl. 33.

Bouvreuil commun, French; *Pisco-chilreiro, Domfafe*, Portug.; *Camachuelo*, Span.; *Ciuffolotto*, Ital.; *Dompfaff*, German; *Goudvink*, Dutch.

♂ *ad.* (England). Differs from *P. major* in being smaller, in having a comparatively smaller bill, and the under parts much duller in colour, being brick-red and not rich vermilion. Culmen 0·35, wing 3·2, tail 2·6, tarsus 0·7 inch. The female also differs from that of *P. major* in being smaller. The young bird resembles the female, but lacks the black on the

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head, and the upper parts are browner, the under parts are tinged with warm ochreous, and the larger wing-coverts are tipped with warm brownish ochreous.

Hab. Continental and western Europe; Great Britain and Ireland; a rare visitor to N. Africa.

Like its northern and eastern congener it is a resident throughout its range, but in the winter season it wanders about the country in search of food. It frequents woods, groves, and gardens, is lively and cheerful in its general habits, active and agile when on trees or bushes, but heavy and awkward on the ground, and its flight is swift and undulating. Its call-note is a soft, plaintive *hoop, hoop*, or *dyou, dyou*, and its song, though mellow, lacks variety and power. It feeds on seeds, chiefly those of noxious weeds, berries, &c., and to a small extent also on tender buds, but the young are fed both on seeds and on insects and their larvae.

Nidification commences early in May, and the nest, which is placed on a bush or tree, usually not high above the ground, is built of thin dry twigs, fine roots and sometimes leaves, and the cup, which is very neatly formed, is carefully lined with fine roots, and less frequently with hair or wool. The eggs, 4 to 5 in number, are pale greenish blue, somewhat sparingly marked, chiefly at the larger end, with pale purplish red or violet-grey shell-blotches, and dull red or reddish brown surface-spots, and measure about 0·74 by 0·55.

487. Subsp. pyrrhula major.

Pyrrhula major, Brehm, Vög. Deutschl. p. 252 (1831); Dresser, iv. p. 97, pl. 198; Gould, B. of Asia, iv. pl. 38; *Loxia pyrrhula*, Linn. Syst. Nat. i. p. 300 (1766); (Sharpe), Cat. B. Br. Mus. xii. p. 446.

Dompap, Dan. and Norw.; *Domherre*, Swed.; *Punatulkku-Leivonen*, Finn.; *Snyargir*, Russ.

♂ *ad.* (Russia). Crown, nape, space round the eye, and a narrow space round the base of the bill purplish black; upper parts bluish ash, the rump white; wings, upper tail-coverts and tail glossy purplish black; the innermost secondary with the outer web nearly all red; larger wing-coverts tipped with ashy grey; under parts rich vermilion red, the lower abdomen and under tail-coverts white; bill black; legs and iris dark brown. Culmen 0·45, wing 3·8, tail 3·1, tarsus 0·8 inch. The female has the head, wings, and tail not so glossy black, the upper parts ashy brown, the under parts warm brown, with a faint vinous tinge, the outer web of the inner secondary reddish grey, and the bill paler at the base.

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Hab. Scandinavia, Russia, occurring as far south as Greece; Eastern Europe generally; Asia as far east as Dauria and south to Central Asia.

Throughout its range it is a resident, though some wander south in the winter. Essentially an inhabitant of the woodlands it frequents woods, groves, and gardens, and inhabits both the plains and hills. It is by no means a stupid bird, but wary and well able to take good care of itself. Its note and song do not appreciably differ from those of *P. europæa*. Both species are greatly valued as cage birds, and can readily be taught to whistle tunes. In captivity they thrive well, and soon become attached to their owner. Its nest and eggs closely resemble those of *P. europæa*, but are as a rule larger, the eggs measuring about 0·79 by 0·63.

488. Subsp. Pyrrhula kamtschatica.

Pyrrhula kamtschatica, Tacz. Bull. Soc. Zool. France, vii. p 395 (1882), id. F. O. Sib. O. p. 680; Sharpe, Cat. B. Br. Mus. xii. p. 447.

♂ *ad.* (Kamchatka). Resembles *P. major*, but has the upper parts clearer and somewhat paler in colour, the band across the wing white instead of grey, the ear-coverts with a silvery tinge, and the inner web of the innermost secondary either very pale red or lacking the red colour altogether. Culmen 0·44, wing 3·71, tail 2·7, tarsus 0·8 inches. The female has the upper parts greyer and less brown in tinge, and the under parts clearer than the female of *P. major*.

Hab. Kamchatka, and of rare occurrence in Manchuria.

In habits it is said to closely resemble *P. major*. Its nest and eggs are, so far as I can ascertain, as yet unknown, but doubtless resemble those of that species.

489. Oriental Bullfinch.

PYRRHULA GRISEIVENTRIS.

Pyrrhula griseiventris, Lafr. Rev. Zool. 1841, p. 240; Sharpe, Cat. B. Br. Mus. xii. p. 449; *P. rosacea*, Tacz. F. O. Sib. O. p. 681 (nec. Seeb.), *P. orientalis* (partim), Temm. and Schlegel, Faun. Jap. Aves, pl. 53 (1850).

♂ *ad.* (Japan). Differs from *P. europæa* in having only the sides of the head and the upper throat red, pinker, and not so brick-red in tinge, the rest of the under parts being dull ashy grey, and it lacks the red on the innermost secondary. Culmen 0·4, wing 3·25, tail 2·6, tarsus 0·68 inch. The female resembles that of *P. europæa*.

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Hab. Eastern Siberia, the lower Amoor, Manchuria, Corea, N. China, and Japan.

In habits it does not differ from our European Bullfinch. It breeds in Siberia, but its nest and eggs appear to be as yet unknown.

P. kurilensis, Sharpe, op cit. xii. p. 450, pl. xi. (1888), has the upper parts not quite so clear grey in tinge of colour, and the under parts a trifle paler and duller than in *P. griseiventris*, and appears to me not to be worthy of even subspecific rank. It inhabits the Kurile islands.

490. Subsp. Pyrrhula rosacea.

Pyrrhula rosacea, Seebohm, Ibis. 1882, p. 371 ; Sharpe, Cat. B. Br. Mus. xii. p. 451 ; *P. orientalis* (partim), Temm. and Schlegel, Faun. Jap. Aves, p. 53 ; Gould, B. of Asia, v. pl. 35.

♂ *ad.* (Japan). Differs from *P. griseiventris* in having the under parts pale rosy red, sometimes with a grey tinge, and the upper parts slightly tinged with rosy red, and slightly duller in tinge of colour than in *P. griseiventris*. Culmen 0·4, wing 3·25, tail 2·55, tarsus 0·7 inch. The female is undistinguishable from that of *P. griseiventris*.

Hab. Eastern Siberia and Japan.

This bird is considered by some ornithologists to be merely an advanced stage of *P. griseiventris*, but after an examination of a considerable series of specimens, I agree with Dr. Sharpe that it should be treated as a valid subspecies. In habits it does not differ from *P. griseiventris*.

491. Cassin's Bullfinch.

PYRRHULA CASSINI.

Pyrrhula cassini, Baird, Trans. Chic. Acad. i. p. 316, pl. 29 (1869) ; Dresser, ix. p. 201, pl. 677 ; Sharpe, Cat. B. Br. Mus. xii. p. 451 ; Turner, Nat. Hist. Alaska, Birds, p. 169, pl. vii ; Ridgway, p. 389 ; *P. cineracea*, Cab. J. f. O. 1872, p. 316, ; Gould, B. of As. v. p. 40.

♂ *ad.* (Siberia). Differs from *P. europæa* in having the upper parts clearer blue grey, the innermost secondary lacking the red, and the under parts are not brick-red, but clear, pale ashy grey, the cheeks and ear-coverts clearer and paler ; flanks and middle of the abdomen rather paler ; bill black ; legs and iris dark brown. Culmen 0·45, wing 3·45, tail 2·80, tarsus 0·65 inch. The female is slightly duller in tone of colour, and the under parts are brownish grey.

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Hab. From the Ural mountains through Siberia to Alaska, south to Turkestan and the Mongolian slopes of the Altai range. It has strayed, it is said, as far west as St. Petersburg.

In general habits it is said to resemble our European bird, but its call-note is clearer and not so harsh. It breeds in the southern Baikal district, but its nest and eggs are as yet undescribed. Some specimens from the Altai are rather paler, and have been separated subspecifically by Seebohm under the name *P. cineracea pallida* (Ibis, 1887, p. 101), but I cannot take this view.

492. Azorean Bullfinch.

PYRRHULA MURINA.

Pyrrhula murina, Godman, Ibis. 1866, p. 97, pl. 3; Dresser, iv. p. 107, pl. 200; Sharpe, Cat. B. Br. Mus. xii. p. 452.

♂ *ad.* (Azores). Resembles the female of *P. europæa*, but has a larger and stouter bill, the upper parts are washed with dull orange-brown, and the rump not white, but coloured like the back; under parts brownish ash, with an orange-brown tinge; bill, legs, and iris as in *P. europæa*. Culmen 0·5, wing 3·45, tail 3·0, tarsus 0·9 inch. The female is rather smaller, and less tinged with orange-brown, more especially on the under parts, which are greyer and paler than in the male.

Hab. St. Michael, Azores.

It is said to be confined to mountainous portions of the island of St. Michael, where it is tolerably common and very tame. In general habits it resembles *P. europæa*, but nothing is known respecting its nest and eggs.

493. Beavan's Bullfinch.

PYRRHULA ERITHACUS.

Pyrrhula erithacus, Blyth, Ibis. 1862, p. 389; id. Ibis. 1863, p. 441, pl. x; Sharpe, Cat. B. Br. Mus. xii. p. 455; Gould, B. of Asia, v. pl. 39; Oates, F. Brit. Ind. Birds, ii. p. 206; David and Oust. Ois. Chine, p. 349.

♂ *ad.* (Sikhim). Space at base of bill black, margined with greyish white; crown, nape, and upper parts dark ashy grey, the sides of head and throat paler; a broad black, and then a white band across the rump; quills black, lesser and median coverts ashy grey, with dark centres, the larger coverts black, with terminal portion ashy grey; tail and upper tail-coverts

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glossy black ; breast, upper abdomen, and sides orange-red, rest of under parts greyish white ; bill black ; legs dull flesh colour ; iris dark brown. Culmen 0·4, wing 3·27, tail 2·8, tarsus 0·7 inch. The female has the under parts, excepting the white abdomen, chocolate, the back darker.

Hab. Sikhim, Kan-su, Western China.

I find nothing on record respecting its habits or nidification.

The following species of Bullfinch, though not recorded from the Palaearctic area, may not improbably occur there, viz.: *Pyrrhula nipalensis*, Hodgson (inhabiting the Himalayas from Garhwál to Sikhim, and Fohkien in China), *P. aurantiaca*, Gould (the Hazara country and Kashmir, extending into the adjoining native territory), and *P. erythrocephala*, Vigors (Southern Kashmir and Chamba, along the Himalayas to Bhutan).

PINICOLA, Vieill., 1807.

494. Pine Grosbeak.

PINICOLA ENUCLEATOR.

Pinicola enucleator (Linn.), Syst. Nat. i. p. 299 (1766) ; (Wils.) Am. Orn. i. p. 80, pl. 5, fig 2 ; (Naum.) iv. p. 403, Taf. 112, figs. 1, 2 ; (Gould), B. of E. iii. pl. 204 ; id. B. of Gt. Brit. iii. pl. 44 ; (Hewitson), i. p. 210, pl. liii. ; (Newton), ii. p. 177 ; Dresser, iv. p. 111, pl. 201 ; Sharpe, Cat. B. Br. Mus. xii. p. 459 ; Saunders, p. 199 ; Lilford, iv. p. 73, pl. 36 ; Ridgway, p. 388.

Dur-bec vulgaire French ; *Fichtengimpel, Hakengimpel*, German ; *Krognæb*, Dan. ; *Konglebit*, Norw. ; *Tallbit*, Swed. ; *Taviokuurna*, Finn. ; *Pacagas-loddi*, Lapp. ; *Shur*, Russ.

♂ *ad.* (Sweden). Upper parts rich, light, carmine-red, the base of the feathers slaty blue, the head, neck, and rump richer coloured ; wings and tail blackish brown, margined with pale red, the secondaries margined, and the larger and median coverts broadly tipped with white, the scapulars and lesser coverts edged with slaty blue, and washed with red ; lores, forehead, and orbital region dull blackish ; middle of abdomen, under wing- and tail-coverts slate-blue, the last tipped with white ; rest of the under parts like the upper parts ; bill dull horn, paler at the base below ; legs blackish brown ; iris dark brown. Culmen 0·7, wing 4·35, tail 3·7, tarsus 0·9 inch. The female differs in having the red in the plumage replaced by apple-yellow. The young bird resembles the female.

Hab. The Northern portions of the Old and New Worlds, occasionally straying in winter to continental Europe, and even to Great Britain ; has been obtained as far south as Italy.

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Is an inhabitant of the woodlands, chiefly those of conifers, and though said to be a stupid bird it certainly is not so in its breeding-haunts where it is eminently cautious and wary, but in the winter, when it wanders south it is trustful and evidently ignorant of any danger from man, though I have found them there even very shy where they have been subject to persecution. Its foods consists of seeds, to a large extent those of conifers, and of berries. Its note when flying from tree to tree is a low, plaintive, and somewhat melodious whistle, and its song somewhat resembles that of the Bullfinch, but is sweeter and more varied. It breeds in the high north, and its nest, which is placed on a conifer tree is lightly constructed of fine twigs, lined with fine rootlets and grass or moss. The eggs, usually 4 in number are pale blue, with a greenish tinge, spotted and blotched with pale purplish shell-, and dark brown surface-markings, and measure about 0·99 by 0·73. Mr. Ridgway separates the American bird into two subspecies, *P. enucleator canadensis* and *P. enucleator kodiaka*, and considers it subspecifically separable from our European bird, but I fail to detect any difference.

LOXIA, Linn., 1766.

495. Common Crossbill.

LOXIA CURVIROSTRA.

Loxia curvirostra, Linn. Syst. Nat. i. p. 299 (1766); Naum. iv. p. 356, Taf. 110; Audubon, B. Am. pl. 197; Gould, B. of E. iii. pl. 202; id. B. of Gt. Brit. iii. pl. 45; Hewitson, i. p. 212, pl. liv. figs. 2, 3; Newton, ii. p. 187; Dresser, iv. p. 127, pl. 203; Sharpe, Cat. B. Br. Mus. xii. p. 435; Saunders, p. 201; Lilford, iv. p. 75, pl. 37; Ridgway, p. 392.

Bec-croisé, French; *Cruza-bico*, Portug.; *Pico-tuerto*, Span.; *Crociere*, Ital.; *Kreuzschnabel*, German; *Kruisbek*, Dutch; *Mindre Korsnæb*, Dan.; *Grau-Korsnæb*, Norw.; *Mindre Korsnäbb*, Swed.; *Kapylintu*, *Ristinokka*, Finn.; *Klest-yelovik*, Russ.

♂ *ad.* (Sweden). General colour dull red or brick-red, sometimes varied with yellow, the rump brighter; wings and tail dark brown, margined or tinged with red; middle of abdomen greyish white, tinged with red; mandibles curved, crossing each other except in the nestling, dull brown, darker at the tip; legs dark brown; iris dark hazel. Culmen 0·75, wing 3·9, tail 2·6, tarsus 0·65 inch. In the female the red is replaced by greenish yellow.

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Hab. The northern portion of the Old and New Worlds, ranging south through Europe to N. Africa; Asia, east to Japan and south to the Himalayas and China; America south to Mexico. In Scotland it is resident. It is more a wanderer than a migrant and nests nearly throughout its range, in the south in elevated parts of the mountains. In its habits it is very parrot-like, climbing about the conifer-trees, often with the head downwards using both feet and bill in climbing. It feeds on seeds of conifers and to some extent on insects and their larvæ, and is said to be useful in destroying large numbers of the noxious caterpillars which are so destructive to forest-trees. When feeding it is usually silent or utters a low, rather melodious call-note, which in the spring is modulated into a sort of song, simple but musical. Nidification commences early, eggs being often found early in March, or even before that. The nest is usually placed in the fork at the top of a fir-tree, or on the horizontal branches near the stem, and is constructed of twigs, moss, lichens, and grass, lined with wool, hair, and rootlets. The eggs usually 4 in number resemble those of the Greenfinch, and are pale bluish white marked, chiefly at the larger end, with small red and purple spots and dashes, and measure about 0·78 by 0·61.

In size, coloration, and size of bill, the Crossbill varies considerably, and has consequently been separated into many species and subspecies, but I quite agree with Dr. Sharpe that after examining a large series, it is impossible to recognise these. Our European bird has been split up into three species or subspecies, viz., *L. curvirostra*, inhabiting N. Europe, *L. curvirostra balearica* (Homeyer, J. f. O., 1862, p. 256) from the Balearic Isles, and *L. c. poliogyna* (Whitaker, Ibis 1898, p. 625) from Tunis. The Himalayan bird has been named *L. himalayana* Hodgs., the Chinese *L. albiventris* Swinhoe, the Japanese *L. japonica* (Ridg.), and Mr. Ridgway separates the American bird from that found in Europe and recognises three forms, *L.c. minor* (Brehm) from N. America generally east of the Great Plains, *L.c. stricklandi* from the S. Western United States and the highlands of Mexico, and *L.c. bendirei* from the N. W. United States.

496. Subsp. Loxia pityopsittacus.

Loxia pityopsittacus, Bechst. Orn. Taschenb. p. 106 (1802); Naum. iv. p. 339, Taf. 109, figs. 1–3; Gould, B. of E. iii. pl. 201; id. B. of Gt. Brit. iii. pl. 46; Newton, ii. p. 207; Dresser, iv. p. 121, pl. 202; Sharpe, Cat. B. Br. Mus. xii. p. 436; Saunders, p. 202.

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Bec-croisé Perroquet, French; *Kiefern-Kreuzschnabel*, German; *Groote Kruisbek*, Dutch; *Stor-Korsnæb*, Dan.; *Furukorsnæb*, Norw.; *Större Korsnäbb*, Swed.; *Iso-Kapylintu*, *Iso-Ristinokka*, Finn.; *Klestsosnovik*, Russ.

♂ *ad.* (N. Sweden). Differs from *L. curvirostra* merely in being larger, and having a stouter and stronger bill, the height of the bill at base being 0·6, and the width of the lower mandible at base 0·5, against 0·5 and 0·4 in *L. curvirostra*. Culmen 1·0, wing 4·2, tail 2·8, tarsus 0·75 inch.

Hab. Europe north of the Mediterranean and west of the Ural; of rare occurrence in Great Britain.

In habits, note, and nidification it closely resembles *L. curvirostra*, but its note is louder, and its nest and eggs rather larger, the eggs measuring about 0·93 by 0·68.

The present form does not appear to have been met with in Asia or North America but is, apparently, confined to Europe.

497. Subsp. Loxia rubrifasciata.

Loxia rubrifasciata, Brehm in litt. Bp. and Schlegel, Monogr. Lox. p. 5 (1850); Dresser, ix. p. 208, pl. 679; *L. bifasciata* (nec. Br.); Sharpe, Cat. B. Br. Mus. xii. p. 442.

♂ *ad.* (Resembles *L. curvirostra*, but is a trifle brighter red in colour; median and larger wing-coverts tipped with rosy white, forming two distinct bars across the wing; the two innermost secondaries tipped with rosy white. Culmen 0·82, wing 3·7, tail 2·25, tarsus 0·72 inch; height of bill at base 0·45, width 0·4. The female resembles that of *L. curvirostra*, but has two somewhat indistinct greyish bands across the wing.

Hab. Eastern Europe (Western Russia, Eastern Germany and Sweden). But little is known of this form which may be a variety of *L. curvirostra*, but it appears to be a fairly good subspecies.

In habits it resembles that species, but its call-note is said to be quite distinguishable from that of *L. curvirostra*. Its nest and eggs are as yet unknown, but will probably not differ from those of *L. curvirostra*.

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498. White-Winged Crossbill.

LOXIA LEUCOPTERA.

Loxia leucoptera, Gmel. Syst. Nat. i. p. 845 (1788); Audub. B. Amer. pl. 201; (Wilson), Am. Orn. iv. p. 48, pl. 31, fig. 3; Naum. xiii. p. 188, pl. 385, fig. 4; Gould, B. of E. iii. p. 203; id. B. of Gt. Brit. iii. pl. 48; Newton, ii. p. 218; Dresser, iv. p. 137, pl. 204, fig. 2; Sharpe, Cat. B. Br. Mus. xii. p. 443; Saunders, p. 204; Ridgway, p. 393.

♂ *ad.* (N. America). Head, neck, and back carmine-red, with a pomegranate tinge, often pomegranate red, the dark bases of the feathers showing through here and there; rump claret-red; scapulars black, slightly tinged with red; wings and tail black; wing-coverts broadly tipped with white, forming two white bands, inner secondaries slightly tipped with white; under parts red like the upper parts, but the middle of the abdomen greyish white, tinged with red; under tail-coverts dark slaty grey, broadly margined with white; bill slender, light horn, darker at the tip; legs brownish; iris dark brown. Culmen 0·8, height of bill at base 0·3, wing 3·4, tail 2·55, tarsus 0·6 inch. The female has the upper parts dull ashy grey, broadly striped with blackish brown, slightly tinged with yellow; rump apple-yellow; under parts greyish white, more finely striped with dull blackish brown, the middle of the abdomen nearly white; wings and tail as in the male.

Hab. North America from Northern New England as far north as the spruce-forest extends, east to Alaska, in winter wandering to or beyond Lat. 40°. Has occurred in Greenland and Great Britain.

Frequents the spruce-woods and is tamer and more confiding than *L. curvirostra*, and in winter visits the lumber-camps in small flocks to obtain food. Its note is not unlike that of *L. curvirostra* and it is said to utter a musical song, but though I saw numbers during the breading season I never heard one sing. They make good cage birds and soon become very tame. It breeds in British North America in the spruce-forests, constructing a nest of dry twigs and green lichens, thinly lined with coarse hairs and shreds of the inner bark of trees. The eggs are pale blue spotted or dotted with black and ashy lilac, in size rather smaller than those of *L. curvirostra*. It breeds very early whilst the snow is still deep in the forests, and the nest is therefore very difficult to find.

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499. Two-barred Crossbill.

LOXIA BIFASCIATA.

Loxia bifasciata (Brehm), Ornis, iii. p. 85 (1827); Gould, B. of Gt. Brit. iii. pl. 47; Newton, ii. p. 211; Dresser, iv. p. 141, pl. 205; Sharpe, Cat. B. Br. Mus. xii. p. 442; Saunders, p. 203; Lilford. iv. p. 80, pl. 38; *L. tænioptera*, Gloger, Isis, 1827, p. 411; Naum. xiii. p. 188, Taf. 385, figs. 1, 2, 3.

Bec-croisé bifascié, French; *Crociere fasciato*, Ital.; *Weissbindige Kreuzschnabel*, German; *Witbandige Kruisbek*, Dutch; *Hvidvinget Korsnæb*, Dan. and Norw.; *Bändel Korsnäbb*, Swed.; *Kirjasiipi Kieronokka*, Finn.; *Klest-balokruiloui*, Russ.

♂ *ad.* (Archangel). Differs from *L. leucoptera* in having the red in the plumage carmine-red, with a vermilion tinge, the scapulars dull black, much tinged with red, the tail more forked, and the bill stouter. Culmen 0·85, height of bill at base 0·43, wing 3·8, tail 2·75, tarsus 0·62 inch. The female resembles that of *L. leucoptera*, but has the bill stouter, the tail more forked, and the under parts rather fainter and less striped. Both this species and *L. leucoptera* vary a good deal in the depth of red in the plumage, and occasionally it is intermixed more or less with yellow.

Hab. The northern portions of Europe and Asia, in winter wandering south to Southern Germany and Italy, and in Asia to Manchuria. As a rare straggler it has been obtained in England, Scotland, and Ireland.

In habits it does not appear to differ from *L. leucoptera* and frequents the spruce- and larch-woods. It is tamer than the Common Crossbill and is very easy of approach. I never heard it utter any note but the low call-note not unlike that of *L. curvirostra*, but there is no doubt that it has a pleasant and musical song, and in Russia is kept as a cage bird for that reason. Its nest resembles that of *L. curvirostra* but is smaller and somewhat slighter built, and the eggs also resemble those of that species but are rather darker in ground colour.

EMBERIZA, Briss., 1760.

500. Corn-Bunting.

EMBERIZA MILIARIA.

Emberiza miliaria, Linn. Syst. Nat. i. p. 308 (1766); Naum. iv. p. 213, Taf. 101, fig. 1; Hewitson. i. p. 186, pl. xlvii. fig. 3; Gould, B. of E. iii. pl. 171; (id.) B. of Gt. Brit. iii. pl. 26; Newton, ii. p. 38; Dresser, iv. p. 163, pl. 208; Sharpe, Cat. B. Br. Mus. xii. p. 552; Saunders, p. 207; Lilford, iv. p. 24, pl. 13.

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Bruant-Proyer, French; *Triguerão*, Portug.; *Triguero*, Span.; *Strillozo*, Ital.; *Grauammer*, German; *Grauwe Gors*, Dutch; *Kornlærke*, Dan.; *Kornsparf*, Swed.; *Proyanka*, Russ.

♂ *ad.* (England). Upper parts and sides of the head greyish brown striped with blackish brown, the rump and upper tail-coverts only obscurely thus marked, under parts white, the throat, breast, and flanks striped with blackish; quills and rectrices dark brown with pale buffy white or pale rufous buff margins; median coverts with dull white tips; bill horn with a rufous tinge, the under mandible yellow; legs pale fleshy brown; iris dark brown. Culmen 0·52, wing 3·9, tail 3·1, tarsus 1·0 inch. The female resembles the male but is smaller, and the young birds also, but they are more ochraceous in colour.

Hab. Europe generally, from southern Norway and Sweden to the Mediterranean, east to the Ural; Canaries; N. Africa in winter; Asia as far east as Turkestan, and is said to have once occurred in Sind.

Frequents arable fields and less often meadows where trees and bushes are scattered about, and is often seen on the ground. During the breeding-season it lives in scattered pairs, but in the autumn collects in flocks and in company with Sparrows and Yellow Buntings visits stubble-fields, stackyards, and farm-buildings in search of food. In the summer it feeds chiefly on insects, the young being fed on these only, but in the autumn and winter on grain and seeds of various weeds. Both on the ground and on the wing it is a heavy, somewhat clumsy bird. Its call-note in the pairing season is a soft *zik, zik*, and its song, which is uttered from the top of a tree, bush, or stake, is not so loud as that of *E. citrinella*, and resembles the syllables *zick, zick, zick, ter ill, ill, ill, ill.* Its nest, which is placed on or near the ground, is constructed of grass, moss, and a few twigs, usually lined with a few hairs, and the eggs, 5 to 6 in number, are usually deposited rather late in the season, and are dull white or ochreous white blotched and streaked with purplish brown, and are subject to considerable variation. In size they average about 0·95 by 0·68.

This bird roosts on the ground, and is consequently often netted with Larks.

501. Striped Bunting.

EMBERIZA STRIOLATA.

Emberiza striolata (Licht.), Verz. Doubl. p. 24 (1823); Dresser, iv. p. 197, pl. 213; (Sharpe), Cat. B. Br. Mus. xii. p. 561; Oates, F. Brit. Ind. Birds. ii. p. 264.

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Andhi cherya, Hind.

♂ *ad.* (India). Head and neck greyish white striped with white; on each side of the head three white stripes, the upper one forming a supercilium; upper parts warm sandy brown with dark brown stripes; quills dark brown, edged with creamy sienna, the inner web sienna at the base; wing-coverts sienna with dull grey margins; tail blackish brown edged with sienna; throat and upper breast-feathers black with greyish white margins; rest of under parts pale buff; under wing-coverts sienna; bill blackish brown the lower mandible yellowish; legs pale yellow; iris brown. Culmen 0·4, wing 3·25, tail 2·45, tarsus 0·5 inch. The female is paler and more obscure in colour, the dark stripes paler, those on the breast almost obsolete. In the winter the feathers have grey margins, making the markings more obscure.

Hab. Palestine, Arabia, S. Persia, Baluchistan, Sind to Etawah, the Punjab down to Cutch, and Saugor in the Central Provinces of India; is said to have occurred in N. Africa as far west as Algeria.

Inhabits bare, rocky hill-ranges where the vegetation is but scant, even though more fertile ground may be quite near. In general habits it is active, cheerful, and fearless. Its song is poor in quality and feeble, and is uttered from any elevated perch. Nidification (in India) is said to take place twice in the year, in November and in July. The nest is placed on the ground amongst the rocks, and is constructed of a few twigs, grass-roots, and stems, rather loose in structure, and lined with feathers. The eggs are pale greenish, bluish, or brownish white, spotted and dotted with brown and a few pale purplish streaks and blotches, and measure about 0·74 by 0·51.

502. House-Bunting.

EMBERIZA SAHARÆ.

Emberiza saharæ, Levaill jr. Expl. Scient. de l'Alg. Atlas, Ois. pl. ix. bis. fig. 2 (1850); Dresser, ix. p. 219, pl. 682; (Sharpe), Cat. B. Br. Mus. xii. p. 563.

Fisscough, Arabic; *Tabib*, in Morocco.

♂ *ad.* (Algeria). Differs from *E. striolata* in having the dark stripes on the head and neck finer and less clearly defined, the upper parts more rufous and only indistinctly striped, the breast and under parts unstriped and much more rufous, and the wings more rufous sienna in colour; bill yellowish, dark horn towards the tip; legs pale fleshy; iris brown. Culmen 0·45, wing 3·0, tail 2·6, tarsus 0·65 inch. The female differs in having the upper parts duller and paler, the head and neck sandy grey, and the stripes less clearly defined.

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Hab. Morocco, southern Algeria, and Tunis.

In general habits it resembles *E. striolata* but is even more tame and confiding, and frequents native houses, frequently entering the rooms in search of food, and picking up crumbs from the table. It feeds on insects, seeds, and any scraps it can pick up about the native houses, and being protected by the Arabs is even tamer than our Robin. It breeds in March or April, and the nest, which is usually placed in a hole in a wall or on a rafter, is constructed of fine twigs or sticks and grass-bents lined with hair, cotton, or wool. The eggs, usually 3 in number, are white, finely spotted with brown, the spots being usually more profuse at the larger end, often forming an irregular band or zone, and are not unlike some varieties of the egg of *Passer domesticus*. In size they average about 0·79 by 0·6.

503. Black-headed Bunting.

EMBERIZA MELANOCEPHALA.

Emberiza melanocephala, Scop. Ann. Hist. nat. p. 142 (1769); Naum. iv. p. 227, Taf. 101, fig. 2; Gould, B. of E. iii. pl. 172; (id.) B. of Asia, v. pl. 13; (Newton), ii. p. 64; Dresser, iv. p. 151 pl. 206; Sharpe, Cat. B. Br. Mus. xii. p. 503; Oates, F. Brit. Ind. Birds, ii. p. 261; Saunders, p. 205; Lilford, iv. p. 34, pl. 18.

Bruant crocote, French; *Zigolo capinero*, Ital.; *Kappenammer* German; *Tschernogolovaia-ovsyanka*, Russ.; *Gandam* Hind.

♂ *ad.* (Asia Minor). Forehead, lores, below the eye, crown, and nape deep black; upper parts and lesser wing-coverts rich orange chestnut; under parts deep yellow; remiges and rectrices blackish brown, the latter and the primaries narrowly margined with dull white, the secondaries and wing-coverts broadly margined with warm buffy white; bill dark horn, yellowish flesh below; legs fleshy brown; iris dark brown. Culmen 0·65, wing 3·75, tail 3·15 tarsus 0·85 inch. The female is much less richly coloured; upper parts fulvous brown, the head and back streaked with blackish brown, the crown and rump slightly washed with yellow; under parts fulvous white, the breast washed with ochraceous, and the abdomen with yellow; under tail-coverts yellow; wings and tail as in the male but paler. In the winter the rich colours in the male are obscured by the dull pale margins to the feathers.

Hab. South-eastern Europe as far west as Italy, a rare straggler to France, Great Britain, and Heligoland; eastward through Asia Minor and Palestine to Persia and Baluchistan,

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wintering on the plains of India as far east as Delhi, Nagpur, and Chánda, and as far south as Belgaum.

In habits it resembles the Corn-Bunting, frequenting fields and cultivated ground, feeding on insects and seeds in the summer, and grain and seeds in the winter. It call-note is a soft *tchéh*, and its song, which is simple but sweet resembles the syllables *sirzirrri siriri*. Its nest which is composed of dry grass-bents and lined with hair, is placed on the ground, in a tuft of grass, or in a low bush, and the eggs usually 5 in number are deposited in May, and are delicate pale greenish blue marked, chiefly at the larger end, with faint purplish underlying shell-spots and light or dark brown surface-spots without any of the irregular lines so characteristic of Bunting eggs. In size they average about 0·87 by 0·63.

504. Red-headed Bunting.

EMBERIZA LUTEOLA.

Emberiza luteola, Sparrm. Mus. Carls. fasc. iv. tab. 93 (1789); Dresser, ix. p. 211. pl. 680; Sharpe, Cat. B. Br. Mus. xii. p. 506; Oates, F. Brit. Ind. ii. p. 262; *E. icterica*, Eversm. Add. Pall. Zoogr. Ross. As. fasc. ii. p. 10 (1841); *E. bruniceps*, Brandt, Bull. Sc. Acad. St. Petersb. ix. No. 195, p. 10 (1842).

= *Gandam*, Hind.; *Dalchidi*, Sind.: *Sarik-kutchkach*, Turki; *Bulle-Bulle-Goaya*, Tekke.

♂ *ad.* (Turkestan). Crown nape and hind-neck rich orange-yellow, the fore-crown tinged with rufous; back and rump deep yellow the former striped with black; rectrices and remiges brown margined with creamy white; lores, sides of head, ear-coverts, throat, and fore-part of neck chestnut-red; rest of under parts bright yellow; bill bluish grey, dusky at the tip above; legs fleshy brown; iris brown. Culmen 0·6, wing 3·45, tail 2·85, tarsus 0·85 inch. In the winter the bright colours are obscured by ashy margins to the feathers, and the under parts are washed with ashy grey. The female has the upper parts ashy brown, the crown and back streaked with dark brown, the rump washed with olive-yellow; under parts sandy grey washed with yellow, more richly on the abdomen; under tail-coverts pale yellow.

Hab. Transcaspia, Turkestan, and Afghanistan, ranging north to Siberia, and south to the Persian Gulf; has twice been obtained on Heligoland; in winter it is found on the plains of India from the foot of the Himalayas to the Nilgiris and from Sind to Chutia Nagpur.

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In habits it is said to resemble *E. miliaria* and frequents cornfields and cultivated ground, usually on the plains, and not in the hills. The nest is placed in a low bush or on the ground, and is constructed of dried grass, plant-stems, and shreds of bark, and lined with hair. The eggs 3 to 4 in number are deposited in May or June and are pale greenish grey, spotted streaked or blotched, often more profusely at the larger end, with sepia brown, and these markings are not unfrequently reduced to small dots. In size they average about 0·83 by 0·64. They resemble those of *E. melanocephala* but are as a rule smaller.

505. Chestnut Bunting.

EMBERIZA RUTILA.

Emberiza rutila, Pall. Reis. Russ. Reichs, iii. p. 698 (1776); Temm. and Schlegel, Faun. Jap. Aves, pl. 56B; (David and Oust.), Ois. Chine, p. 331; Oates, F. Brit. Ind. Birds, ii. p. 263; Sharpe, Cat. B. Br. Mus. xii. p. 514; (Tacz.), F. O. Sib. O. p. 607.

♂ *ad.* (China). Upper parts, including the wing-coverts and external margins of inner secondaries, head, neck to the upper breast rich chestnut-red; many of the feathers with narrow yellowish margins; under parts yellow the flanks striped with chestnut and chestnut-brown; remiges and rectrices dark brown with paler margins; bill dark horn but paler below; legs pale yellowish brown; iris brown. Culmen 0·5, wing 2·75, tail 2·4, tarsus 0·7 inch. The female has the upper parts olivaceous brown striped with blackish brown, the crown tinged with chestnut, the rump unstriped chestnut-red; chin and throat dull white, the sides and lower throat marked with chestnut; rest of under parts as in the male but somewhat duller. The young bird is brown above and pale yellowish below, above and below striped with dark brown.

Hab. Eastern Siberia and N. China wintering in S. China, Siam, and Eastern India; has been once recorded from Japan. During the breeding season it may generally be found amongst the bushes on the borders of the forest, but in the winter it frequents the reed-beds. According to Godlevsky its song is short and insignificant, but Abbé David states that it is pleasant and sustained and that the Chinese value it as a cage-bird on account of its song. It breeds in N. China and eastern Siberia late in May or early in June, the nest, which is placed on the ground amongst the grass, is somewhat slightly constructed of dry plant-stems, and lined with horsehair. The eggs are sandy yellowish, with brownish grey shell-markings and pale olivaceous surface-markings, marked also with a few black scratches and lines. In general tone of colour they are yellowish

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brown, whereas those of *E. aureola* (which they resemble in character) are olivaceous. In size they measure about 0·69 by 0·54.

506. Yellow-breasted Bunting.

EMBERIZA AUREOLA.

Emberiza aureola, Pall. Reis. Russ. Reichs, ii. p. 711 (1773); Gould, B. of E. iii. p. 174; Naum. xiii. pt. 2, p. 166, taf. 381 figs. 1, 2; Dresser, iv. p. 223, pl. 218; David and Oust. Ois. Chine, p. 332; Sharpe, Cat. B. Br. Mus. xii. p. 509; (Tacz.), F. O. Sib. O. p. 603; Oates, F. Brit. Ind. Birds, ii. p. 259.

Strenatka tschernolitsaya, Russ.; *Kultasirkku*, Finn.

♂ *ad.* (Archangel). Forehead, sides of face, ear-coverts, chin, and upper throat deep black; crown and upper parts deep chestnut, the back striped with black; quills deep brown margined with fulvous, the secondaries washed with rufous; least wing-coverts greyish black, median coverts white, larger coverts dark brown margined with rufous buff and narrowly tipped with dull white; tail blackish brown, the outer feathers chiefly white; under parts bright yellow, the upper breast crossed by a chestnut band, the flanks striped with blackish brown; upper mandible dark horn-brown, lower mandible brownish flesh; legs pale brownish flesh; iris brown. Culmen, 0·45, wing 3·1, tail 2·2, tarsus 0·75 inch. The female has the upper parts greyish brown, the crown and rump tinged with chestnut, the back striped with black; wings and tail as in the male, but the median coverts are blackish brown tipped with fulvous white; chin, lores, and sides of head dark greyish brown, the rest of the under parts pale citron-yellow, the flanks striped with brown. Like its allies the plumage is much duller in the winter owing to the ashy margins to the feathers.

Hab. Northern Russia, west to the frontier of Finland, east across Siberia to Japan and as far north as Kamchatka; in winter ranging south to China, Siam, and the southern extremity of the Malay peninsula; in the west to Palestine, and as a rare straggler it has occurred in central France, and Italy.

Frequents bush-covered plains on the outskirts of the forests, willow-thickets in damp places, and occurs in the mountains to an altitude of 5,000 to 6,000 feet, and in the winter frequents reed- and rush-beds. Its song, which is short but pleasant, is uttered from the top of a bush or a plant-stem, and it is said to be a most industrious songster. Its nest is placed on the ground

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amongst the grass, or on a low bush, and is constructed of dry bents and rootlets well lined with horsehair. The eggs, 4 to 5, rarely 6 in number, are deposited early in June, and are greenish grey clouded with darker grey or purplish grey and more or less marked with blackish brown scratches and are subject to considerable variation. In size they measure about 0·75 by 0·58.

507. Japanese Bunting.

EMBERIZA PERSONATA.

Emberiza personata, Temm. Pl. col. iii. pl. 580 (1835); id. and Schlegel, Faun. Jap. Aves, pl. 59B; Sharpe, Cat. B. Br. Mus. xii. p. 521; Tacz. F. O. Sib. O. p. 567.

Awoji, Jap.

♂ *ad.* (Japan). Differs from *E. spodocephala* in having the throat yellow sometimes marked with grey on the sides of the lower throat, and not slaty olive as in that species. Culmen 0·4, wing 2·9, tail 2·5, tarsus 0·85 inch. The female resembles that of *E. spodocephala* but is a trifle larger and is more boldly streaked on the flanks.

Hab. Japan, the Loo-Choo islands and the island of Saghalien, but it does not appear to occur in China.

Frequents the valleys near the rivers, and the plains and in general habits resembles *E. spodocephala*. It breeds numerously on Fuji-yama, and its nest, which is constructed of dry grass and rootlets, and lined with fine roots and horse-hair, is placed on the ground, in a grass-tussock, or in a small pine-tree near the ground. The eggs usually 4 in number are deposited from the end of May to the early part of July, and resemble richly marked varieties of those of *E. hortulana*.

508. Black-faced Bunting

EMBERIZA SPODOCEPHALA.

Emberiza spodocephala, Pall. Reise Russ. Reichs, iii. p. 698 (1776); David and Oust. Ois. Chine, p. 329; Schrenck. Reis. etc. Amurl. p. 142, Taf. xii. figs. 5–8; Sharpe, Cat. B. Br. Mus. xii. p. 522; Oates, F. Brit. Ind. Birds, ii. p. 260; Tacz. F. O. Sib. O. p. 563.

♂ *ad.* (Siberia). A broad band across the forehead, lores and the point of the chin deep black; crown, nape, and upper parts, together with the whole neck and breast dull olive-green, on the hind-neck washed with brown; mantle washed with rufous and striped with black; wings and tail blackish brown, the quills and wing-coverts margined with rufous and

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rufous-buff; the two outer rectrices with large oblique white patches; under parts below the breast yellow; the flanks striped with brown; bill dark brown above, horny pinkish white below; legs brownish fleshy; iris brown. Culmen 0·44, wing 2·75, tail 2·15, tarsus 0·75 inch. The female has the upper parts browner, and lacks the black on the face, chin, and forehead; chin, throat, and breast yellow spotted and streaked with brown; rest of the under parts as in the male but duller.

Hab. Siberia from the Yenesei valley to the Pacific, wintering in China and the Himalayas from Nepal to Assam and down to Manipur; is said to have been once met with in Japan.

Inhabits the outskirts of the forests and has a preference for the banks of rivers and damp marshy localities. Its song, which is uttered from the top of a bush near the nest, is short, somewhat feeble, but pleasant. It arrives at its breeding-haunts late in May and at once commences nidification. The nest, which is placed in a low bush, or occasionally on the ground, is constructed of grass-bents and plant-stems well lined with hair, and the eggs, 4 to 6 in number, much resemble some varieties of *Passer domesticus* and are white, splashed and blotched all over, in some more closely at the larger end, with brown, varying in shade from light nut-brown to brown with an olivaceous tinge and dull rufous brown. In size they average about 0·72 by 0·56.

509. Japanese Yellow Bunting.

EMBERIZA SULPHURATA.

Emberiza sulphurata, Temm. and Schlegel, Faun. Jap. Aves, p. 100, pl. 60 (1850); David and Oust. Ois. Chine, p. 330; Sharpe, Cat. B. Br. Mus. xii. p. 519.

Nojiko, Jap.

♂ *ad.* (Japan). A narrow line across the forehead, lores, and the chin black; crown and upper parts dark olive-grey, the crown washed with yellowish green, the mantle tinged with yellowish and streaked with black; wings and tail dark brown, the wing-coverts and secondaries broadly margined with warm buff and dull white, the two outer tail-feathers strongly marked with white oblique bands; under parts yellow, paler on the lower abdomen, the flanks striped with reddish brown; bill brown above, greyish below; legs clear brown; iris brown. Culmen 0·4, wing 2·7, tail 2·25, tarsus 0·7 inch. The female is duller and browner and lacks the black on the head. In the winter the male has the back washed with rufous and more boldly streaked with black.

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Hab. Japan, wintering in southern China.

In general habits it is said to resemble *E. personata*. It breeds in Japan and is said to be the commonest Bunting on Fuji-yama, where it places its nest in the fork of a small bush about two feet from the ground, constructing it of grass, lined with horsehair or the seed-stalks of moss. The eggs usually 4 in number are deposited from the end of May to the early part of July, and closely resemble a common variety of those of the Garden-Warbler with dark spots.

510. Cinereous Bunting.

EMBERIZA CINEREA.

Emberiza cinerea, Strickland, P.Z.S. 1832, p. 99; Gould, B. of Asia, v. pl. 8; Dresser, iv. p. 159, pl. 207; Sharpe, Cat. B. Br. Mus. xii. p. 529.

♂ *ad.* (Asia Minor). Crown, nape, and sides of head ashy grey, tinged with yellow; upper parts brownish ash, the back darkly striped; wings and tail blackish brown, the primaries margined with dull white, the secondaries and wing-coverts more broadly with warm buff, outer rectrices with the inner web terminally white, chin and throat clear yellow; lower throat and upper breast ash-grey, tinged with yellow; rest of under parts white, the flanks washed with grey; bill dull horn-blue, legs fleshy brown; iris dark brown. Culmen 0·5, wing 3·6, tail 3·1, tarsus 0·85 inch. The female is duller in colour, the head browner, striped with dark brown; chin and throat yellow, with short dark stripes; rest of under parts buffy white, the breast and flanks washed with ashy brown. The young bird is darker, and more distinctly striped, the under parts are pale brownish ash, striped and spotted with brown, the chin and throat washed with pale sulphur, the abdomen and under tail-coverts dull white, and has the inner secondaries broadly margined with buffy rufous.

Hab. Asia Minor, ranging east to Persia.

Affects rocky, mountainous districts where vegetation is scanty, and ranges high up into the conifer region; it is extremely shy and wary, and in its general habits is said to resemble *E. cæsia*. Its call-note is a short *küp*, and its song a succession of short strophes resembling the syllables *dir, dir, dir, dli-di*, variously modulated.

Although it appears to breed in some numbers near Smyrna, but one nest with eggs has, so far as I can ascertain, been as yet obtained, and is now in the Museum at Athens, but I possess one egg out of this clutch, which was obtained by Dr. Krüper near Smyrna on the 10th May 1889. It is white

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with a bluish tinge, somewhat sparingly marked with black spots and small blotches, and a few almost obsolete pale shell-spots or dots, the markings being chiefly at the larger end. In size it measures 0·81 by 0·61.

511. Yellowhammer.

EMBERIZA CITRINELLA.

Emberiza citrinella, Linn. Syst. Nat. i. p. 309 (1766); Naum. iv. p. 234, Taf. 102, figs. 1, 2; Hewitson, i. p. 188, pl. xlvii. fig. 2 (egg); Gould, B. of E. iii. pl. 173; id. B. of Gt. Brit. iii. pl. 22; Newton, ii. p. 43; Dresser, iv. p. 171, pl. 209; Sharpe, Cat. B. Br. Mus. xii. p. 515; Tacz. F. O. Sib. O. p. 561; Saunders, p. 209; Lilford, iv. p. 26, pl. 14.

Bruant jaune, French: *Cerillo*, Span.; *Zigolo giallo*, Ital.; *Goldammer*, German; *Geelgors*, Dutch; *Gulspurv*, Dan. and Norw.; *Gulsparf*, Swed.; *Keltasirkku*, Finn.; *Obiknovennoi-ovsyanka*, Russ.

♂ *ad.* (England). Head and throat citron-yellow, the forehead, sides, and back of crown striped with blackish; mantle brown, striped with dark brown, the scapulars rufous-tinged; rump and upper tail-coverts bay, tinged with fulvous; wings and tail dark brown, with narrow, external yellowish margins, the wing-coverts margined with cinnamon and dull yellow, the two outer rectrices white on the terminal part of inner web; under parts citron-yellow, the upper breast and flanks mottled with cinnamon, the latter striped with brown; bill bluish; legs pale brown; iris dark brown. Culmen 0·45, wing 3·25, tail 2·75, tarsus 0·7 inch. Female duller, the yellow on the plumage fainter, the upper parts darker-streaked, the breast mottled with brown. In winter both sexes have the plumage more dingy, owing to the fulvous margins to the plumage.

Hab. Central and Northern Europe, north into Lapland, west to the Canaries; east in Asia as far as Krasnojarsk and Turkestan; in winter ranging as far south as North Africa.

Frequents groves, gardens, and fields where there are hedge-rows or bushes, and is a resident in most parts of Europe except the high north, collecting in flocks in the autumn and ranging about the fields, or frequenting farm-yards in search of food. In the summer it feeds chiefly on insects, but in the autumn and winter on wild berries, grain, and seeds. Its well known simple but far from disagreeable song may be heard continually during the spring and summer later almost than any other bird, and even on fine, bright, winter days. Its nest is usually placed near or on the ground, in a bush or hedgerow, and is constructed of dry grass-stems, roots, moss, and occasionally fine

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twigs, lined with fine rootlets and hair. The eggs, which are deposited in May, June, or July, are usually 4 to 6 in number, dull white, sometimes with a russet tinge, covered with long hair-like streaks which have the appearance of having been drawn with a pen, and spotted and blurred with reddish purple, and measure about 0·86 by 0·64. Two broods are reared in the season.

Specimens have been obtained in the Ural, and on the Yenesei river, which have the throat chestnut as in *E. leucocephala* (cf. Ibis 1901, p. 453, pl. x) but whether they form only a variety or more I am as yet unable to say.

512. Cirl Bunting.

EMBERIZA CIRLUS.

Emberiza cirlus, Linn. Syst. Nat. i. p. 311 (1766); Naum. iv. p. 251, Taf. 102, figs. 3, 4; Hewitson, p. 190 pl. xlviii. fig. 2 (egg); Gould, B. of E. iii. pl. 175; id. B. of Gt. Brit. iii. pl. 23; Newton, ii. p. 50; Dresser, iv. p. 177, pl. 210; Sharpe, Cat. B. Br. Mus. xii. p. 525; Saunders, p. 211; Lilford, iv. p. 28, pl. 15.

Bruant zizi, French; *Sia, Sicia*, Portug; *Chilla*, Span.; *Zigolo nero*, Ital; *Zaunammer*, German; *Ogorodnaya-ovsyanka*, Russ.

♂ *ad.* (Spain). Crown, nape, and sides of neck olive-green, striped with black; mantle dark bay, striped with black; lower back, rump, and upper tail-coverts greenish grey, the last tinged with rufous; wings and tail, much as in *E. citrinella*, but the lesser wing-coverts olive-green; lores, ear-coverts, cheeks, and upper throat black; supercilium, cheek-patch, and a band across the lower throat lemon-yellow, fore-part of breast yellowish olive; sides of breast bay; flanks greyish brown, indistinctly striped; rest of under parts lemon-yellow; bill dark ashy brown; legs yellowish; iris brown. Culmen 0·4, wing 3·15, tail 2·8, tarsus 0·7 inch. The female lacks all black and yellow on the head, has only a sulphur supercilium, the chin and throat are tinged with yellow, and both upper and under parts are dark, streaked, the former on a brownish, and the latter on a yellowish buff ground.

Hab. Central and southern Europe; southern England, of doubtful occurrence in Scotland; once obtained in Ireland; south to Algeria, east to Asia Minor, Turkey, and south Russia; resident except in the northern portions of its range but winters in the south of England.

In its general habits it resembles *E. citrinella* and like that species frequents meadows and cultivated ground, in the winter ranging about the fields in search of food. Though not shy

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it is wary and unobtrusive. Its call-note resembles the syallables *zi-zi-zärr-zirr*, and its song resembles that of *E. citrinella* but is less melodious and lacks the final strophe. Its nest is placed in a furze- or other bush, or occasionally on a bank, and is constructed of grass-bents, rootlets, and moss, lined with rootlets and hair. Two broods are raised in the season, the first clutch of eggs being deposited in May and the second in July. These, 4 or 5 seldom 6 in number, are pale greyish white with a faint blue tinge marked with pale indigo brown and blackish brown stripes and hair-lines, and in size average about 0·89 by 0·66. The female and young of this species are distinguishable from those of *E. citrinella*, in having olive-green lesser wing-coverts.

513. Yellow-throated Bunting.

EMBERIZA ELEGANS.

Emberiza elegans, Temm. Pl. col. iii. pl. 583 (1835); id. et Schlegel, Faun. Jap. Aves, p. 93, pl. 55; (Gould), B. of As. v. pl. 12; Radde, Reis. Sud. Ost. Sib. Vög. p. 165, pl. 5; David and Oust. Ois. Chine, p. 322; Sharpe, Cat. B. Br. Mus. xii. p. 497; Tacz. F. O. Sib. O. p. 568; Seebohm, B. Jap. Emp. p. 137.

Hoang-mêy, Chinese.

♂ *ad.* (Japan). Crown, lores, sides of the head, chin, and a large patch on the upper breast deep black; a narrow white line over the forehead and above the lores, widening into a broad yellow supercilium contiuued and meeting on the hind-crown; hind-neck greyish; back and wing-coverts chestnut-brown, streaked with black and margined with sandy white or buff; rump, middle rectrices, and upper tail-coverts ashy grey, the rump with obsolete brown markings; quills dark brown, with buff external margins; tail-feathers, the central excepted, blackish brown, the two outer chiefly white; throat yellow; under parts below the black, white, the flanks striped with chestnut-red; bill blackish horn; legs flesh colour; iris dark brown. Culmen 0·45, wing 2·9, tail 2·65, tarsus 0·75 inch. The female lacks the yellow on the head and throat, the black is hidden, being only at the base of the feathers, and the upper parts are brown.

Hab. E. Siberia; Manchuria; Japan, where it is probably resident; wintering in China as far west as Moupin.

Frequents the outskirts of the forests, and is said to be by no means shy. Its call-note is said by Radde to resemble that of other Buntings, and its song is rich and melodious, it being described as the best songster of the Buntings. It breeds in Siberia, the nest being placed on the ground amongst bushes, and constructed of grass, rootlets, and plant-stems lined with

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hair and fine roots. The eggs 5 in number are deposited late in May and are white with pale violet shell-markings and brownish black small surface-spots, in size measuring about 0·75 by 0·59. They are not unlike the eggs of *E. leucocephala*, and lack the characteristic lines found on the eggs of most Buntings.

514. Yellow-browed Bunting.

EMBERIZA CHRYSOPHRYS.

Emberiza chrysophrys, Pall. Reis. Russ. Reichs, iii. Anhang, p. 698 (1776); Radde, Reis. S. Ost Sib. Vög. taf. iv. figs. 1*a*, *b*, *c*; Dresser, iv. p. 193, pl. 212; David and Oust. Ois. Chine, p. 325; Sharpe, Cat. B. Br. Mus. xii. p. 498; Tacz. F. O. Sib. O. p. 570.

Ta-huang-méy, Chinese.

♂ *ad.* (Siberia). Crown, nape, and sides of the head black; a narrow central line on the crown white; supercilium yellow; upper parts warm brown, streaked chiefly on the mantle with blackish; remiges and rectrices dark brown, with paler margins, the two outer rectrices obliquely marked with white; under parts white, the sides of throat, breast, and flanks striped with blackish brown; bill horn-grey, paler at the base and below; legs pale flesh; iris brown. Culmen 0·45, wing 3·1, tail 2·5, tarsus 0·75 inch. The female is duller in colour, more rufous on the upper parts, and more spotted on the under parts.

Hab. E. Siberia, wintering in China; has occurred twice in Belgium.

Frequents bush-covered localities, chiefly willow-thickets and has been met with in company with *E. pusilla*. Its call-note is softer and shriller than that of the other Buntings. Nothing is as yet known respecting its nidification.

515. Ortolan.

EMBERIZA HORTULANA.

Emberiza hortulana, Linn. Syst. Nat. i. p. 309 (1766); Naum. iv. p. 258, Taf. 103, figs. 1, 2, 3; Hewitson, i. p. 191, pl. xlviii. fig. 1; Gould, B. of E. iii. pl. 176; Newton, ii. p. 57; Dresser, iv. p. 185, pls. 211, 215, fig. 1; Sharpe, Cat. B. Br. Mus. xii. p. 530; Oates, F. Brit. Ind. Birds, ii. p. 259; Saunders, p. 213; Lilford, iv. p. 30, pl. 16.

Bruant-ortolan, French; *Hortelano*, *Ave-tonta*, Span.; *Ortolano*, Ital.; *Gartenammer*, German; *Ortolan*, Dutch; *Hortulan*, Dan. and Norw.; *Ortolansparf*, Swed.; *Peltosirkku*, Finn.: *Sadovaya-ovsyanka*, Russ.

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♂ *ad.* (Finland). Head greenish grey; lores, throat, and a ring round the eye lemon-yellow; upper parts, wing-coverts, and secondaries fulvous brown, the back darker striped; the larger wing-coverts edged with fulvous white; rump yellowish brown; remiges and rectrices dark brown, with dull fulvous margins, the outer tail-feathers with large white apical patches; fore-breast yellowish green; rest of under parts tawny chestnut; bill dull flesh red, paler below; legs pale fleshy red; iris brown. Culmen 0·5, wing 3·6, tail 2·9, tarsus 0·75 inch. The female, especially when very old, differs but little from the male, but is somewhat duller and paler in colour. Young birds are dull pale rufous, closely streaked above and below with dark brown.

Hab. Europe generally, breeding as far north as south Varanger, and as far south as Algeria; Asia as far east as Afghanistan, Turkestan, and Gilgit; wintering in Africa as far south as Abyssinia. To England it is only a rare straggler, has occurred twice in Scotland and once ? in Ireland.

Frequents the outskirts of woods, bush-covered meadows, and fields, gardens when they are near the woods, fences and bushes on the roadsides and I often saw it sitting on barns and outbuildings, and in its general habits it reminded me much of *E. citrinella*. It feeds on insects and seeds, the young birds being fed on the former. Its song which is uttered from a bush, fence, stone, or the roof of a barn is *tink, tink, tink, tjörr* the last note prolonged and harsh. Nidification begins in May and the nest, which is constructed of grass-bents and rootlets sometimes lined with a few hairs, is placed on the ground, amongst grass or stones, or under bushes or large plants. The eggs 4 or 5 in number are pale ashy grey, sometimes with a russet tinge with pale purplish grey shell-markings and blackish brown surface-spots or blotches, with only occasionally a few hieroglyphic scratchy lines, and average about 0·77 by 0·61. In confinement it soon becomes very fat and in southern Europe numbers are netted and fattened for the table.

516. Grey-necked Bunting.

EMBERIZA HUTTONI.

Emberiza huttoni, Blyth, J. A. Soc. Beng. xviii. p. 811 (1849); Dresser, ix. p. 215, p. 681; "*E. buchanani*, Blyth," Sharpe, Cat. B. Br. Mus. xii. p. 533; Oates, F. Brit. Ind. Birds, ii. p, 258; *E. cerrutii*, De Filippi Arch. per la Zool. ii. fasc. 2, p. 383 (1863); Gould, B. of As. v. pl. 11.

Jamjohara, Hind.

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♂ *ad.* (Turkestan). Crown, nape, and hind-neck ashy grey; upper parts greyer than in *E. hortulana*, the under parts paler, the breast marked with pale chestnut, and the yellow on the head and throat replaced by greyish white. Culmen 0·5, wing 3·5, tail 2·9, tarsus 0·75 inch. The female differs only in being rather paler and duller in colour.

Hab. Transcaspia, rare as far west as the Caucasus and Crimea; Persia, Afghanistan, the Altai range, and Turkestan; wintering in the N.W. portions of the plains of India as far south as Khandála and Chanda, and east as Etawah.

In habits it appears to most nearly resemble *E. cæsia*, affecting rocky, uneven ground where there are bushes or low trees, and Dr. Finsch met with it in desolate rocky gorges in the mountains. Mr. Blanford found a nest in Persia about 70 miles south west of Kárman at an elevation of about 8,000 feet, on the 22nd. May, in a bush about a foot from the ground. It was constructed of moss, neatly and compactly made, and contained three eggs, very pale green in colour with small distinct rounded surface-spots, and minute dots of purplish black, and fainter purplish grey shell-markings, the latter confined chiefly to the larger end. In size they measure 0·9 by 0·65.

517. Cretzschmar's Bunting.

EMBERIZA CÆSIA.

Emberiza cæsia, Cretzsch. in Rüpp. Atlas, p. 17, Taf. 10, fig. *b* (1826); Gould, B. of E. iii. pl. 181; Naum. xiii. 2 p. 172, Taf. 381, figs. 3, 4; Dresser, iv. p. 213, pls. 215, fig. 2, 216; Sharpe, Cat. B. Br. Mus. xii. p. 535.

Bruant cendrillard, French; *Ortolano-grigio*, Ital.; *Grauer Ortolan*, German.

♂ *ad.* (Asia Minor). Crown, ear-coverts, and nape, a narrow streak on each side of the throat, and a band across the upper breast clear blue grey; lores, a ring round the eye, a moustachial stripe, and throat pale chestnut-red; upper parts rufous brown, the back streaked with dark brown; wings and tail dark brown externally margined with rufous, the two outer rectrices white on terminal part of the inner web; under parts deep chestnut; bill reddish brown, paler below; legs and iris brown. Culmen 0·4, wing 3·4, tail 2·4, tarsus 0·6 inch. The female differs in being paler and duller in colour, the head and breast-band are striped with black, and the throat marked with small brown specks. Like all the Buntings, in the winter-dress the colours are obscured by the fulvous margins to the feathers.

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Hab. South-east Europe, of rare occurrence as far west as Italy, S. France, and Algeria; Asia Minor; Palestine; as far east as the Caucasus; wintering in Arabia and N.E. Africa. It has also been obtained on Heligoland.

Frequents rocky localities, bare hill-sides, places covered with low scrub, and the borders of the desert. In general habits it is said to resemble *E. hortulana*, and its note is low, but cheery, often repeated like that of that species. The nest, which is placed on the ground under a grass tuft amongst stones, or in a low bush, is constructed of grass-bents, lined with fibres and horsehair, and is very neat and compact. The eggs 4 or 5 in number are dull white or pale reddish marked with pale purplish shell-blotches and blackish brown surface-spots and blotches, with but few scratches, and in general character approach nearest to those of *E. hortulana*. In size they average about 0·77 by 0·61.

518. Pine-Bunting.

EMBERIZA LEUCOCEPHALA.

Emberiza leucocephala, Gmel. N. Com. Ac. Sc. Imp. Petr. xv. p. 480, tab. 23, fig. 3 (1770); Dresser, iv. p. 217, pl. 217; David and Oust. Ois. Chine, p. 329; Sharpe, Cat. B. Br. Mus. xii. p. 549; Oates, F. Brit. Ind. Birds, ii. p. 254; Tacz. F. O. Sib. O. p. 590, *E. pithyornis*, Pall. Reis. Russ. Reichs, ii. Anhang. p. 710 (1773); Naum. iv. p. 276, Taf. 104, fig. 3; Gould, B. of E. iii. pl. 180.

Fichtenammer, German; *Strenatka-beloshapotchnaya*, Russ.

♂ *ad.* (Siberia). Crown, nape, and a streak below the eye white; forehead, sides of the crown and a few streaks on the hind-crown, blackish; lores, sides of the head and neck and entire upper throat rich chestnut-red; upper parts pale chestnut, on the back and wing-coverts marked with blackish; wings and tail dark brown, with warm buff external margins, the two outer rectrices largely white; under parts white, on the breast and flanks blurred with pale chestnut; beak horn-brown, paler below; legs flesh coloured; iris dark brown. Culmen 0·5, wing 3·65, tail 3·2, tarsus 0·75 inch. The female lacks all chestnut on the head and throat, these being greyish with dark streaks, the throat whiter, and the breast and flanks are blurred and streaked with brown.

Hab. Siberia from the Ural to the Amoor, Manchuria; Mongolia; wintering in North China, the Himalayas down to Garhwal, Gilgit, Kashmir, and Afghanistan. A rare straggler to Europe, where it has been obtained in Turkey, Austria, Hungary, Italy, South France, and once on Heligoland.

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Frequents the borders of the forests, old conifer woods, and bush-covered plains and fields, and is said to be not shy. In the autumn they collect in large flocks, and range about the open country and in the cornfields in search of food. The call-note is like that of *E. citrinella*, but the song is said to be unlike that of a Bunting, reminding one more of that of *Erithacus rubecula*, and is prolonged and melancholy, but not loud. Nidification commences in May, and the nest, which is placed on the ground under a bush or tussock, is neatly constructed of grass-bents and plant-stems, lined with hair. The eggs, 4 to 6 in number, are in character like those of *E. citrinella*, and are dull white, pale bluish white, or rose-white, with faint violet-grey shell-markings and marblings, and blackish brown surface-lines or spots, and in size average about 0·77 by 0·66.

519. Grey-headed Bunting.

EMBERIZA FUCATA.

Emberiza fucata, Pall. Reis. R. R. iii. p. 698 (1776); Temm. and Schlegel, Faun. Jap. Aves, pl. 57; Gould, B. of As. v. pl. 9; David and Oust. Ois. Chine, p. 325; Sharpe, Cat. B. Br. Mus. xii. p. 493; Oates, F. Brit. Ind. Birds, ii. p. 252; Tacz. F. O. Sib. O. p. 577, *E. lesbia*, Gmel. Syst. Nat. i. p. 882 (1788); Gould, B. of E. iii. pl. 178.

Putthur-chirta, Hind.; *Ho-aka*, Jap.

♂ *ad.* (Japan). Crown, hind-neck, and sides of neck grey, streaked with black; upper parts pale chestnut-red, blotched and streaked with black; wings and tail dark brown, with pale external margins, the two outer rectrices with large, oblique, white terminal patches; under parts white, the throat with lateral black blotches, which meet across the lower throat; ear-coverts and a band across the breast chestnut-red; flanks washed with buff and streaked with blackish brown; bill dark fleshy brown, paler below; legs pinkish; iris brown. Culmen 0·5, wing 2·85, tail 2·7, tarsus 0·8 inch. The female differs only in being somewhat duller in colour.

Hab. Eastern Siberia, Manchuria, Corea, Japan, China, Assam; wintering in Southern China and Burma; is said to have strayed to Europe.

Frequents open rocky places covered with low bushes, and is said not to be particularly shy. Its song is sweet and long, and it is said to be one of the best of the Siberian songsters amongst the Buntings. It arrives at its breeding haunts early in May and commences nidification in June. The nest is placed on the ground or in a bush within about a foot from

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the ground, and is built of fine grass-bents, lined with finer bents and a few feathers, and is but slightly constructed. The eggs, usually 5 in number, are pale greenish finely spotted with pale brick-red, without any scratchy lines, and measure about 0·79 by 0·60. The spots are sometimes scattered evenly over the surface of the shell and at others collected at the larger end.

520. Subsp. Emberiza arcuata.

Emberiza arcuata, Sharpe, Cat. B. Br. Mus. xii. p. 494 (1888) ; Oates, Faun. Brit. Ind. Birds, ii. p. 253.

♂ *ad.* Differs from *E. fucata* in having the upper parts rather more rufous, the median and lesser wing-coverts chestnut, the scapulars chestnut, but slightly marked with black ; the chestnut band on the breast very broad, and the sides of the body chestnut. Culmen 0·45, wing 2·8, tail 2·55, tarsus 0·79 inch.

Hab. The Himalayas from Kashmir to Assam ; resident.

This appears to me after comparing a series of specimens to be a fairly good subspecies. In habits it does not appear to differ from *E. fucata*. It breeds in the Himalayas at from 6000 to 8000 feet altitude, in May, June, and July, constructing a saucer-shaped nest of dry grass, placed on the ground under shelter of a bush or stone, and deposits 4 eggs resembling those of *E. fucata*, being pale greenish grey speckled all over with dull reddish or purplish brown, and measure about 0·83 by 0·6.

521. Japanese Grey Bunting.

EMBERIZA VARIABILIS.

Emberiza variabilis, Temm. Pl. col. iii. pl. 583, fig. 2 (1835) ; id. and Schlegel, Faun. Jap.. Aves, pl. 56 ; Tacz. F. O. Sib. O. p. 609 ; (Sharpe), Cat. B. Br. Mus. xii. p. 566.

♂ *ad.* (Japan). Upper parts dull sooty slate-grey, the back, scapulars and wing-coverts broadly striped, or blotched with black, some of these feathers margined with warm brown, the inner secondaries more broadly thus margined ; quills and tail blackish grey, with narrow brownish margins, the tail without any white ; under parts slate-grey, paler than the upper parts, the middle of the abdomen whitish slate-grey ; bill blackish brown, fleshy at the base below, legs brownish flesh ; iris brown. Culmen 0·55, wing 3·3, tail 2·75, tarsus 0·8 inch. The female has the crown and sides of the head dark reddish brown, with an indistinct central grey line, and a dull white supercilium and line on the sides of the throat ;

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mantle warm brown, streaked with black, the lower back and rump deep chestnut; under parts buffy white, streaked with blackish brown, and in general appearance is very sparrow-like.

Hab. Kamchatka, Eastern Siberia, Behring and Askold islands; Japan.

I find nothing on record respecting its habits. It breeds in Kamchatka, and probably also in Northern Japan, but its nest and eggs are as yet unknown.

522. Rustic Bunting.

EMBERIZA RUSTICA.

Emberiza rustica, Pall. Reise R. R. iii. p. 698 (1776); Gould, B. of E. iii. pl. 177; id. B. of Gt. Brit. iii. pl. 24; id. B. of As. v. pl. 10; Naum. xiii. 2 p. 180, Taf. 386, figs. 1, 2; Newton, ii. p. 29; Dresser, iv. p. 229, pl. 219; Sharpe, Cat. B. Br. Mus. xii. p. 490: Tacz. F. O. Sib. O. p. 572; Saunders, p. 217; Lilford, iv. p. 20, pl. 11.

Zigolo boschereccio Ital.; *Waldammer* German; *Videsparf*, Swed.; *Pohjansirkku* Finn.

♂ *ad.* (N. Russia). Crown and sides of the head black; an indistinct greyish white median stripe on the crown; supercilium and nuchal patch white; lower neck encircled by a bay collar; mantle reddish brown, marked with black, the feathers margined with buff; rump and upper tail-coverts rich bay; quills blackish brown, margined with buff; wing-coverts tipped with white, forming two alar bars; tail blackish brown, the two outer feathers with an oblique white terminal patch; under parts white, the flanks broadly streaked with deep bay; bill brown above, greyish yellow below; legs yellowish flesh; iris dark brown. Culmen 0·45, wing 3·1, tail 2·4, tarsus 0·8 inch. The female differs only in being duller in colour in having the black on the head less pure, and marked with buffy white. The young bird resembles that of *E. schœniclus*, but is more rufous in colour; the supercilium and nuchal patch are buffy white, and the bay band across the breast is obscured by buff; there is also a dark buff stripe through the middle of the crown.

Hab. N. E. Finland and N. Russia, ranging across Siberia; on passage and in winter in Japan, Mongolia, Manchuria, China, and Turkestan; has occurred as a rare straggler in Sweden, Heligoland, Germany, Austria, Italy, S. France, Holland, and has been obtained at least thrice in England.

Frequents the damp densely bush-covered portions of the forests, and is most difficult to procure, being very restless and active in its movements, continually flitting from tree to tree,

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or hiding in the dense underbush, On passage, and in winter it collects in large flocks and is seen on the birch trees, and amongst the bushes. Its call-note is not unlike that of the Redwing, and its song is described as being melodious and sweet. Like its congeners it feeds on insects and seeds. It breeds in N. E. Finland, N. Russia, and Northern Siberia, making a rather loose nest of wiry grass-bents and depositing in June 5 to 6 eggs greenish grey in colour with olivaceous brown blotches and without any scratchy lines, measuring about 0·78 by 0·58. Occasionally the ground colour is reddish in tinge.

523. Little Bunting.

EMBERIZA PUSILLA.

Emberiza pusilla, Pall. Reise Russ. Reichs, iii. p. 697 (1776) ; Naum. xiii. 2, p. 175, Taf. 382, figs. 3, 4 ; Gould, B. of Gt. Brit. iii. pl. 25 ; id. B. of Asia, v. pl. 7 ; Newton, ii. p. 4 ; Dresser, iv. p. 235, pl. 220 ; David and Oust. Ois. Chine, p. 323 ; Sharpe, Cat. B. Br. Mus. xii. p. 487 ; Oates, F. Brit. Ind. Birds, ii. p. 254 ; Tacz. F. O. Sib. O. p. 594 ; Saunders, p. 219 ; Lilford, iv. p. 22, pl. 12.

Zigolo minore, Ital. ; *Zwergammer*, German ; *Dwerggors*, Dutch ; *Dværgverling*, Dan. ; *Vähäsirkku*, Finn.

♂ *ad.* (N. Russia). Crown, nape, and sides of the head, including the ear-coverts and lores, chestnut-red ; sides of the crown extending behind the ear-coverts black ; upper parts greyish wood-brown, streaked with black, the rump greyer ; rectrices and remiges dark brown, margined with rusty buff ; the outer rectrix with a large and the second with a small white stripe ; chin rusty buff ; the rest of the under parts white, the breast spotted, the flanks striped with blackish brown, the latter slightly washed with buff ; bill horn-brown, paler below ; legs brown ; iris dark brown. Culmen 0·35, wing 2·8, tail 2·35, tarsus 0·75 inch. The female differs in being duller in colour, and in having the under parts more densely spotted.

Hab. N. Russia as far west as Onega, and east right across Siberia to the Amoor ; on passage, and in winter in Manchuria, Mongolia, China, Burma, the Andamans, the Himalayas from the Sutlej valley to Assam ; strays to Europe where it has been obtained in S. Sweden, Germany, Holland, Belgium, S. France, Italy, Austria, Turkey, Asia Minor, Syria, twice in Algeria, and has occurred twice in England.

Frequents the forest and also bush-covered plains, and is said to be tame and confiding in its habits. As a rule it appears

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like *E. rustica*, to prefer the damp portions of the forest. In the summer it feeds chiefly on insects, but in the autumn and winter on seeds. Its call- or alarm-note is a low *tick, tick, tick*, and its song is varied and melodious, not unlike that of the Redbreast. It breeds in N. Russia as far west as Onega, or probably Archangel, and in Siberia, placing its nest, which is constructed of dry grass sometimes lined with hair, on the ground amongst the grass and moss. The eggs 4 to 6 in number are usually deposited in June, and are subject to considerable variation, some resembling those of *E. miliaria*, others those of *E. schœniclus*, *E. spodocephala*, and *E. rustica*, but more brown in tinge. Those I have are pale grey with shell blotches of pale violet-grey and surface-blotches and spots of very dark grey, and measure about 0·74 by 0.55.

524. Siberian Meadow-Bunting.

EMBERIZA CIOIDES.

Emberiza cioides, Brandt, Bull. Acad. Sci. St. Petersb. i. p. 363 (1843); Sharpe, Cat. B. Br. Mus. xii. p. 542; Tacz. F. O. Sib. O. p. 579; Tristram, Ibis. 1889, p. 293, pl. x.; Dresser, ix. p. 223, pl. 683; Lilford, iv. p. 32, pl. 17.

♂ *ad.* (Siberia). Crown, nape, and cheeks deep chestnut-red; supercilium and a short line below the eye white; lores and a line on each side of the throat below the chestnut, black; upper parts foxy chestnut, the back marked with black; least wing-coverts bluish ash, the other coverts, secondaries, and middle rectrices blackish brown, broadly margined with chestnut-red; primaries dark brown, narrowly margined with buffy white; the two outer tail-feathers mostly white; throat white; a broad chestnut band across the breast; rest of the under parts dull white, the flanks pale reddish-chestnut; bill plumbeous grey, paler below; legs fleshy brown; iris dark brown. Culmen 0·45, wing 3·4, tail 3·2, tarsus 0·72 inch. The female is duller and lacks the rich chestnut colour in the plumage, the crown is reddish brown, striped with black, the lores are brownish white, and the breast band is dull pale fox-red.

Hab. Siberia east of the Ural, Turkestan, Manchuria, Mongolia, Corea, and China, and has been once obtained in England.

Frequents the southern slopes of mountains and localities which are but sparsely covered with trees and bushes, and avoids the true forest. In the central portion of its range it appears to be a resident but a large number pass south from their northern breeding haunts. Nidification often commences

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in March but, as a rule, eggs are not found before May. The nest is a light but tolerably strong structure of dry grass-bents lined with finer bents, horse- or cattle-hair, and is placed on the ground in a depression and usually at the foot of a bush. The eggs 4 to 5 in number, resemble those of *E. cia* and have the ground colour white with a violet tinge, the larger end surrounded with a wreath of fine, dark brown, irregular lines, the rest of the surface being unmarked or marked with a few indistinct lines, some being in places widened so as to form a thick dark patch. Some eggs resemble those of *E. hortulana*, having thick spots and short streaks without having a distinct wreath. In size they average about 0·87 by 0·61.

The song of the Siberian Meadow-Bunting is said somewhat to resemble that of *E. schœniclus* and *E. miliaria*, and to be lower in tone than that of *E. aureola*. It consists only of two strophes but is pleasing and melodious.

Chinese specimens are as a rule rather smaller than those from Siberia and have been separated subspecifically by some ornithologists under the name *E. castaneiceps* Moore (P.Z.S. 1855, p. 215) but I cannot after a careful examination of a large series detect any constant difference in plumage. They are said to lack the small black spot on the chin, but this is the case in many Siberian specimens also.

525. Jankovski's Bunting.

EMBERIZA JANKOWSKII.

Emberiza jankowskii, Tacz. Ibis. 1888, p. 317, pl. 8 ; id. F. O. Sib. O. p. 587.

♂ *ad.* Differs from *E. cioides*, in having the upper parts especially the crown paler, the sides of the head and face white, and not chestnut-red, the under parts paler and greyer, with a dull chestnut patch on the middle of the abdomen, and no chestnut pectoral band.

Hab. Sidemi, on the frontier of Corea and Chinese Manchuria. I have never seen this Bunting, and only know of one specimen, the type, which is in the Branicki collection at Warsaw.

526. Japanese Meadow-Bunting.

EMBERIZA CIOPSIS.

Emberiza ciopsis, Bp. Consp. i. p. 466 (1850) ; Sharpe, Cat. B. Br. Mus. xii. p. 544 ; Seebohm, B. Jap. Emp. p. 131 ; *E. cioides* (nec. Brandt), Temm. and Schlegel, Faun. Jap. Aves, p. 59, pl. 58.

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Hojiro, Jap.

♂ *ad.* (Japan). Differs from *E. cioides* in having the crown blackish chestnut often marked with grey, the cheeks black, not chestnut, the upper parts browner, and the chestnut breast-band much paler. Culmen 0·4, wing 3·1, tail 2·9, tarsus 0·75 inch. The female very closely resembles that of *E. cioides*, but has the under parts paler, and like that bird has the ear-coverts dull chestnut-brown, but it generally lacks the dark malar stripe, which is present in the female of *E. cioides*.

Hab. Japan.

In habits and note it does not appear to differ from *E. cioides*. It places its nest either on the ground or else in a low bush, not above four feet above the ground, constructing it of dry plant-stems, and lining it with fine bents and hair. The eggs, usually four in number, are deposited from the middle of April to the middle of July, (two broods being apparently reared in the season), and are very like those of *E. cioides* both in colour, markings, and size.

527. Chinese Meadow-Bunting.

EMBERIZA TRISTRAMI.

Emberiza tristrami, Swinhoe, P.Z.S. 1870, p. 441 ; David and Oust. Ois. Chine, p. 326 ; Sharpe, Cat. B. Br. Mus. xii. p. 545 ; Tacz. F. O. Sib. O. p. 575.

♂ *ad.* (China). Head and neck black ; a central line through the crown, supercilium, and a line from the base of the lower mandible down each side of the neck, white ; upper parts, wings, and tail as in *E. cioides*, but the wing-coverts are rather browner ; lower throat, breast, and sides of the body pale sandy rufous ; rest of the under parts white ; bill brown, yellowish below ; legs rufous flesh-coloured ; iris dark brown. Culmen 0·43, wing 2·85, tail 2·3, tarsus, 0·7 inch. The female differs in having the white streaks duller, the ear-coverts are pale brown with a few black streaks ; throat white streaked with black on the sides ; the rufous on the throat duller and streaked with brown.

Hab. Eastern Siberia, Corea, occurring on passage in Northern China and Manchuria ; wintering in southern and central China.

Inhabits the dense forests, and the male is said to have a very sweet song. It breeds in Dauria, the Ussuri country, and Corea, constructing a nest like that of *E. citrinella*, of plant-stems and grass-bents lined with horsehair, which is placed in

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a bush close to the ground. The eggs, which are deposited in June, resemble those of the Ortolan but are much smaller, in size averaging about 0·74 by 0·57.

528. White-capped Bunting.

EMBERIZA STEWARTI.

Emberiza stewarti, Blyth, J.A.S. Beng. xxiii. p. 215 (1854); Sharpe, Cat. B. Br. Mus. xii. p. 547; Oates, F. Brit. Ind. Birds, ii. p. 256; *E. caniceps*, Gould, B. of Asia, v. pl. 6 (1854).

♂ *ad.* (Himalayas). Crown, nape, and sides of the head greyish white; lores, a broad supercilium nearly meeting on the nape, chin, upper throat, and a streak on each side of the throat deep black; upper parts and lesser wing-coverts warm rusty red or pale chestnut, marked on the back with black; quills and tail blackish brown with narrow pale margins, the two outer rectrices with the inner web nearly all white; under parts white with a broad chestnut band across the breast; flanks slightly streaked with rusty brown; bill brown, paler below; legs fleshy pink; iris reddish brown. Culmen 0·4, wing 3·2, tail 2·8, tarsus 0·75 inch. The female has the forehead, crown, hind-neck, and back ashy brown streaked with dull black, the scapulars tinged with chestnut; rump and upper tail-coverts chestnut with paler margins, the shafts black; tail with rather less white; lores and orbital region fulvous; sides of neck and ear-coverts brown; rest of the under parts pale fulvous streaked with dull brown. In the winter dress like almost all the Buntings the feathers have brownish margins, the plumage being consequently much duller in colour.

Hab. Turkestan, Afghanistan; the Himalayas from the Hazara country, Gilgit, and Kashmir to about Almora; wintering on the plains of India; has been obtained in Sind.

In habits it is said by Jerdon to resemble *E. citrinella*. It breeds in Afghanistan, and in the Himalayas at an altitude of 5000 to 7000 feet, commencing nidification in April, the eggs being deposited in May and June. The nest which is placed in a bush close to the ground or on sloping banks or hillsides, is constructed of dry grass. The eggs 4 or 5 in number vary extremely both in size and colour, some being pale blue, thickly spotted with purplish brown and with a few irregular Bunting-like blotches and dashes; others are greyish white profusely spotted and speckled with reddish brown, and with deep purplish brown blotches. In size they average about 0·78 by 0·59.

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529. Meadow-Bunting.

EMBERIZA CIA.

Emberiza cia, Linn. Syst. Nat. i. p. 310 (1766); Naum. iv. p. 270, Taf. 104, figs. 1, 2; Gould, B. of E. iii. pl. 179; Dresser, iv. p. 205, pl. 214; Sharpe, Cat. B. Br. Mus. xii. p. 537.

Bruant-fou, French; *Trigueiro*, Portug.; *Cip-cip*, *Ave-tonta*, Span.; *Zigolo-muciatto*, Ital.; *Zipammer*, German; *Gornaya-ovsyanka*, Russ.

♂ *ad.* (Spain). Crown and nape blue-grey, the sides of the former, line enclosing the eye passing above the ear-coverts, and a moustachial streak black; supercilium greyish white; back warm fulvous streaked with dark brown; rump cinnamon; wings brown with dull white margins to the primaries, and broad cinnamon to the inner secondaries; lesser wing-coverts washed with blue-grey, the median tipped with white; tail blackish brown with cinnamon margins, the two outer rectrices chiefly white; throat, neck, and sides of the face pale bluish grey; breast and abdomen cinnamon, the middle of the latter greyish white; bill dull plumbeous; legs yellowish brown; iris dark brown. Culmen 0·5, wing 3·1, tail 3·0, tarsus 0·5 inch. The female is much duller in colour than the male. In the winter the colours of both sexes are obscured by fulvous margins to the feathers.

Hab. Central and southern Europe, west to Portugal, east to Asia Minor, Palestine, Persia, and Afghanistan, wintering in N. Africa.

In general habits it resembles *E. citrinella* but affects barren dry places and hill-sides where low bushes are scattered about. Its call-note *zi-zi-zi* is uttered from the top of a bush or rock, and its song is like that of *E. citrinella*, but if anything, somewhat clearer. It feeds on insects and seeds of various kinds, in the winter almost exclusively on the latter. Its nest is like that of the Yellowhammer and is placed on the ground usually amongst stones, and the eggs, 4 or 5 in number, are pale grey or buffy grey marked, chiefly round the larger end, with irregular blackish brown wavy lines which look as if drawn with a pen. In size they average about 0·82 by 0·65. The eggs are usually deposited late in May or in June.

530. Subsp. Emberiza stracheyi.

Emberiza stracheyi, Moore, P.Z.S. 1855, p. 215, pl. 112; Sharpe, Cat. B. Br. Mus. xii. p. 539; Oates, F. Brit. Ind. Birds, ii. p. 257.

♂ *ad.* (Himalayas). Closely resembling *E. cia*, differing only in having the markings on the head white and not grey, the median and greater

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wing-coverts tipped with chestnut-brown and not with white, and the under parts are more rufous. Culmen 0·5, wing 3·31, tail 3·1, tarsus 0·75 inch.

Hab. Kashmir; the Himalayas from the Hazára country and Gilgit to Kumaun; Baluchistan; wintering on the plains of India.

This is merely an eastern form of *E. cia*, not differing from it in general habits. It breeds throughout the Himalayas west of the Ganges at from 4,000 to 9,000 feet elevation from April to August, the majority of eggs being deposited in May and June. The nest is placed on the ground, under or between stones, or at the base of a tuft of grass, or a bush, and is constructed of grass-stems lined with fine bents and hair. The eggs are greenish white scrawled with delicate blackish brown lines, usually collected round the larger end, and average about 0·83 by 0·63.

531. Godlevski's Meadow Bunting.

EMBERIZA GODLEWSKII.

Emberiza godlewskii, Tacz. J. f. O. 1874, p. 330; Sharpe, Cat. B. Br. Mus. xii. p. 542; Tacz. F. O. Sib. O. p. 589; David and Oust. Ois. Chine, p. 546.

♂ *ad.* (S.E. Siberia). Differs from *E. cia* in having the crown blue-grey with a central stripe and the supercilium dark chestnut, and no black on the head but on the lores and the forepart of a stripe below the cheek, which then becomes chestnut; the upper parts are rather more rufous, and the blue-grey extends somewhat further on the breast; beak brown, paler below; legs flesh-coloured; iris dark brown. Culmen 0·48, wing 3·65, tail 3·58, tarsus 0·72 inch. The female differs merely in being a trifle duller in colour and in having the crown finely striped with reddish brown.

Hab. Eastern Siberia, Manchuria, Eastern Turkestan, Mongolia, and China, ranging west to Yarkand and N. Kashmir.

Frequents the forests and mountains where brushwood is scattered about, and feeds on seeds of various kinds. It is said to be wary and difficult of approach. So far as I gather it has only been hitherto met with in the winter and its breeding haunts are unknown.

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532. Japanese Reed-Bunting.

EMBERIZA YESSOENSIS.

Emberiza yessoensis (Swinhoe), Ibis, 1874, p. 161 ; Seebohm, Ibis, 1879, p. 39, pl. i. fig. 2 ; Sharpe, Cat. B. Br. Mus. xii. p. 486 ; Seebohm, B. Jap. Emp. p. 132.

♂ *ad.* (Japan). Head, neck, and throat black ; supercilium, widening towards the back, buffy white ; upper parts sandy rufous, the dorsal feathers, inner secondaries, and wing-coverts marked with black and margined with chestnut and creamy buff ; primaries blackish brown with rufous buff margins ; middle rectrices warm sandy brown, the rest blackish with much white on the outermost, dwindling to the third ; under parts white, the flanks washed with sandy buff ; beak dark horn ; legs reddish brown ; iris brown. Culmen 0·38, wing 2·5, tail 2·48, tarsus 0·72 inch. The female differs in being duller, the black on the crown and sides of the head marked with brown, and the throat white marked with black on the lower part.

Hab. Japan.

I do not find any particulars on record respecting the habits of this Bunting, which is peculiar to Japan, nor are its eggs known, but it breeds on Fuji-Yama.

533. Reed-Bunting.

EMBERIZA SCHŒNICLUS.

Emberiza schœniclus, Linn. Syst. Nat. i. p. 311 (1766) ; Naum. iv. p. 280, Taf. 105, figs. 1–4 ; Gould, B. of E. iii. pl. 183 ; id. B. of Gt. Brit. iii. pl. 29 ; Hewitson, i. p. 187, pl. xlvii. fig. 1 ; Newton, ii. p. 23 ; Dresser, iv. p. 241, pl. 221, pl. 222, fig. 1 ; Sharpe, Cat. B. Br. Mus. xii. p. 480 ; Oates, F. Brit. Ind. Birds, ii. p. 251 ; Saunders, p. 221 ; Lilford, iv. p. 18, pl. 10.

Bruant des roseaux, French ; *Emberiza dos caniços*, Portug. ; *Molinero, Teuladi de cañar*, Span. ; *Migliarino di palude*, Ital. ; *Rohrammer*, German ; *Rietgors*, Dutch ; *Rörspurv*, Dan. and Norweg. ; *Säfsparf*, Swed. ; *Kaislasirkku*, Finn. ; *Balotnaya ovsyanka*, Russ. ; *Cha-kuchkach*, Turki.

♂ *ad.* (England). Head, nape, and throat deep black ; a white collar passes round the hind neck and joins a white stripe on each side of the throat ; upper parts black, the feathers margined with ochraceous and bay, the wing-coverts and secondaries broadly margined with bay ; quills blackish with narrow buff external margins ; rump iron grey darkly streaked ; rectrices blackish, the two outer ones chiefly white ; under

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parts white, the flanks striped with dark brown; bill blackish brown; legs dull brown; iris brown. Culmen 0·4, height of bill at base 0·2, wing 3·3, tail 2·9, tarsus 0·8 inch. The female has the crown and sides of the head reddish brown marked with blackish brown; supercilium white; throat whitish; the collar on the hind neck nearly obsolete and the lower throat and upper breast marked with reddish brown. In winter the black on the head of the male is obscured by broad reddish brown margins to the feathers and the throat-feathers with dull white margins; upper parts are also more broadly margined with ochreous grey.

Hab. Europe generally as far north as Lapland; Asia as far east as Kamchatka and Japan; Mongolia, Manchuria, Turkestan; wintering in N.W. India and N. Africa.

Frequents river banks where there are large reed-beds or damp marshy localities overgrown with aquatic herbage, and is lively and active in its habits. Its call-note is a loud clear *tscheek*, and its song is loud but peculiar and stammering. In the summer its food consists chiefly of insects, and in the winter of seeds, chiefly those of aquatic plants. Nidification commences late in March or early in April, and the nest, which is placed in a damp place on the ground, rarely in a low bush, is constructed of grass flags and moss lined with fine grass, hairs, or the feathery tops of reeds. The eggs, 4 to 6 seldom 7 in number, are purplish clay coloured, marked with purplish brown or black spots and streaks, and average about 0·75 by 0·56.

This species is subject to considerable variation, especially in the form and size of the beak; so much so that intermediate forms are to be found showing a full gradation from the typical form to *E. pyrrhuloides*, except as regards colour, for the latter is always much paler than true *E. schœniclus*, and I am therefore only able to recognise it and *E. passerina* as subspecies. Dr. Sharpe, on the other hand (*l.c.*), places the thick-billed birds in a separate genus (*Pyrrhulorhyncha*) and makes three species of them, *P. palustris*, *P. pyrrhuloides*, and *P. pyrrhulina*.

534. Subsp. Emberiza passerina.

Emberiza passerina, Pall. Reise R.R. i. app. p. 456 (1771); Sharpe, Cat. B. Br. Mus. xii. p. 485; Tacz. F. O. Sib. O. p. 600; *E. polaris*, Midd. Sib. Reise, ii. p. 146, Tab. xiii. figs. 1–3 (1851).

♂ *ad.* (Siberia). Differs from *E. schœniclus* in being smaller, the white in the plumage much purer, the upper parts without any rufous, the margins to the feathers being white or creamy white; rump and

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upper tail-coverts white, the latter striped with pale ash. Culmen 0·38, wing 2·88, tail 2·45, tarsus 0·7 inch. The female differs from that of *E. schœniclus* in being paler, more sandy buff in tinge, the rump and upper tail-coverts are white and it is smaller.

Hab. E. Siberia, Turkestan on passage, wintering in Manchuria, Mongolia, and N. China. It also breeds in Corea.

In habits it does not differ from *E. schœniclus*, and its eggs resemble those of that species, but are smaller.

535. Subsp. Emberiza pyrrhuloides.

Emberiza pyrrhuloides, Pall. Zoogr. Ross. As. ii. p. 49 (1811); Dresser, iv. p. 249, pl. 222, figs. 2, 3; (Sharpe) Cat. B. Br. Mus. xii. p. 475.

Kamichowaya ovsyanka, Russ.; *Karabash kuchkach*, Turki.

♂ *ad.* (Astrachan). Differs from E. *schœniclus* in being considerably larger, and paler, the dorsal feathers and middle rectrices with broad white margins, and the bill is much larger and stouter. Culmen 0·5, height of bill at base 0·32, wing 3·6, tail 3·32, tarsus 0·85 inch. In winter the colours on the head, neck, and upper parts are obscured by creamy ochreous margins to the feathers, and the under parts are slightly tinged with yellowish. The female resembles that of *E. schœniclus*, but is larger, paler, and has a much stouter bill.

Hab. Astrachan, Lake Aral, the mouths of the Volga and Ural rivers east to Yarkand.

In habits it does not appear to differ from *E. schœniclus*, and its nest and eggs resemble those of that species, but are larger.

UROCYNCHRAMUS, Prjev., 1876.

536. Rose Bunting.

UROCYNCHRAMUS PYLZOWI.

Urocynchramus pylzowi, Prjevalski, Mongol i Strana Tangut, ii. p. 99, Tab. xv. (1876); Gould, B. of As. v. pl. 32; Sharpe, Cat. B. Br. Mus. xii. p. 472.

♂ *ad.* (Mongolia). Crown and upper parts sandy brown striped with black; quills blackish brown margined with warm buff, the inner secondaries with fulvous brown; wing-coverts fulvous brown with broad reddish margins, the larger with sandy buff tips forming an alar band; central rectrices blackish brown, margined with dull white, the three or four outer ones rose-crimson tipped with white; lores, supercilium, cheeks,

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and under parts rosy red, fading nearly to white on the middle of the abdomen; tail much graduated; bill black above, yellowish below, with tip black; legs black; iris dark brown. Culmen 0·43, wing 2·75, tail 3·5, tarsus 0·87 inch. The female differs in having the under parts white, faintly tinged with rose on the breast; the throat, breast, and flanks streaked with black, and the outer tail-feathers are dull rose-white.

Hab. Kan-su and the upper parts of the Tetung river in Mongolia.

Frequents low dense bushes, chiefly those of *Potentilla tenuifolia*, in plains and valleys near rivers. It breeds in the Alpine regions north of the Tetung in May, but its nest and eggs are as yet unknown.

CALCARIUS, Bechst., 1802.

537. Lapland Bunting.

CALCARIUS LAPPONICUS.

Calcarius lapponicus (Linn.), Syst. Nat. i. p. 317 (1766); (Naum.) iv. p. 318, Taf. 108; (Hewitson) i. p. 182, pl. xlvi. figs. 1, 2; (Audub.) B. Am. pl. 365; (Gould) B. of E. iii. pl. 169; (id.) B. of Gt. Brit. iii. pl. 30; (Newton) ii. p. 15; (Dresser) iv. p. 253, pls. 223, 225, fig. 1; Sharpe, Cat. B. Br. Mus. xii. p. 579; Tacz. F. O. Sib. O. p. 557; Saunders, p. 223; Lilford, iv. p. 16, pl. 9; Ridgw. p. 404; *C. calcaratus* (Pall.), Reis. R.R. ii. p. 710, pl. E. (1773).

Lerchen-Spornammer, German; *Ijsgors*, Dutch; *Lappsparf*, Swed.; *Narksarmiutak*, Greenl.; *Lapinsirkku*, Finn.; *Värri-cicas*, Lapp.

♂ *ad.* (N. Russia). Head, neck, throat, and sides of breast black, the side of the lower throat white; supercilium and a stripe down the sides of the neck white; lower neck and fore part of back rich chestnut-red; upper parts warm ochraceous and pale rusty red, broadly striped and blotched with black; remiges and rectrices blackish margined with warm buff, the two outer tail-feathers largely white towards the end; wing-coverts broadly margined with rufous; under parts white, the flanks striped with black; bill yellow, but black at the tip; legs black; the hind-claw elongated, straight, lark-like; iris dark brown. Culmen 0·5, wing 3·75, tail 2·6, tarsus 0·85, hind-toe with claw 0·85 inch. In winter the colours, especially the black, are obscured by buff margins to the feathers, the chestnut collar is obscured, and the head is marked with dull rufous. The female has the crown and back marked with brown, the chestnut collar is duller and marked with black, the throat and sides of the head are buff marked with black, and the upper parts have the margins to the feathers paler and broader.

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Hab. N. Europe, Asia, and America, not far below the Arctic Circle, but not in Iceland or Greenland, straying south in winter to Central and Southern Scandinavia, rarely to Great Britain and continental Europe; wintering in Asia in Mongolia, Manchuria, and N. China; in America in the Northern United States and Canada.

In habits it resembles the true Buntings. On the ground it runs with ease, and though restless is not shy, and it frequently perches on shrubs and bushes. Its call-note resembles that of *P. nivalis*, but is higher in tone and not so strong, and its clear full song, which is uttered as it rises in the air and gently descends, is like that of a Reed Bunting. The nest, which is placed on the ground or in a low bush, is constructed of rootlets, grass-bents, and moss, and is always lined with feathers. The eggs, 5 to 6 in number, are usually deposited in June, and are olive-brown or greyish green with brown spots and blotches, sometimes with a few dark brown scrawling lines, and measure about 0·81 by 0·60.

PLECTROPHANES, B. Meyer, 1822.

538. Snow-Bunting.

PLECTROPHANES NIVALIS.

Plectrophanes nivalis (Linn.), Syst. Nat. i. p. 308 (1766); (Naum.) iv. p. 297, Taf. 106, 107; (Audubon) B. Am. pl. 189; Hewitson, i. p. 184, pl. xlvi. fig. 3; Gould B. of E. iii. pl. 170; id. B. of Gt. Brit.; Newton, ii. p. 1; Dresser, iv. p. 261, pl. 224, 225, fig. 2; (Sharpe) Cat. B. Br. Mus. xii. p. 572; Tacz. F. O. Sib. O. p. 550; Saunders, p. 225; Lilford, iv. p. 14, pls. 7, 8.

Ortolan de neige, French; *Schneeammer*, German; *Sneeuwgors*, Dutch; *Snespurv*, Dan. and Norweg.; *Snösparf*, Swed.; *Sniotitlingr*, *Sólskrikia*, Icel.; *Allap*, Lapp.; *Lumisirkku*, Finn.; *Podoroschnik*, Russ.

♂ *ad.* (Lapland). Back, primaries, except at the base, spurious wing, inner secondaries and scapulars, and central rectrices black; the rest of the plumage pure white; bill and legs black; iris dark brown. Culmen 0·45, wing 4·2, tail 2·5, tarsus 0·9, middle toe with claw 0·55 inch. The female differs in having the black feathers with white or buffy white margins. In the winter the head, neck, and upper parts are reddish buff or pale chestnut streaked and marked with black, the quills and tail-feathers blackish with warm buff margins, the secondaries chiefly white; under parts white, the flanks washed with rusty yellow and streaked with brown, the chest marked with rusty yellow.

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Hab. The Arctic portions of both continents, breeding in the mountain ranges of Norway, Sweden, Greenland, Iceland, the Faroes, and Scotland, migrating south in winter to the Mediterranean (very rarely); Japan, Manchuria, and N. China; in America to the Northern United States; goes nearer to the Pole than any other Passerine bird.

In habits it resembles the Larks much more than the true Buntings, being usually seen on the ground, where it runs nimbly, hiding when alarmed, and only occasionally perching on trees or fences. Its call-note is a prolonged *tsee*, and its song is said to be a pleasant twittering warble often uttered on the wing. Its food consists of insects and seeds, the latter chiefly during the winter. It breeds in June, placing its nest, which is constructed of grass-bents and a little moss, lined with feathers or down, in the cleft of a rock or under a stone. The eggs, 5 to 6 in number, are bluish white marked with rusty brown or blackish brown spots and blotches, and measure about 0·82 by 0·65. Ridgway describes *s.n. P. nivalis townsendi* (Man. N.A. Birds, p. 403), a form from the Prybilof Islands, Alaska, Commander Islands, and Kamchatka; which he says is "larger with a much larger and longer bill" than *P. nivalis*, but I do not consider it as separable. But his *P. hyperboreus* (P. U.S. Nat. Mus. vii. p. 68, 1884), from Hall Island, St. Matthew's Island, and Alaska, differs in being pure white with only the tips of the five outer primaries, and the tips of the median rectrices black, and is undoubtedly a good species.

CERTHILAUDA, Swainson, 1827.

539. Bifasciated Lark.

CERTHILAUDA ALAUDIPES.

Certhilauda alaudipes (Desf.), Mém. de l'Acad. Roy. des Sciences, 1787, p. 504, pl. xvi.; Dresser, iv. p. 273; (Sharpe) Cat. B. Br. Mus. xiii. p. 518; Kœnig, J. f. O. 1895, p. 434, Tab. vii. fig. 5 (eggs); *C. desertorum* (Stanley), in Salt's Trav. Abyss. App. p. lx. (1814); Dresser, iv. p. 275, pl. 226; (Sharpe) tom. cit. p. 519; *C. bifasciata* (Licht.), Verz. Doubl. p. 27 (1823); Gould, B. of E. iii. p. 168.

Alouette bifasciée, French; *Múka*, Arabic.

♂ *ad.* (N. Africa). Upper parts pale sandy isabelline tinged with grey on the head and nape, the rump and upper tail-coverts paler; primaries white at the base, increasing inwards, otherwise blackish, the innermost tipped with white; secondaries white with a blackish central band; larger coverts tipped with white, the smaller margined with isabelline;

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middle rectrices sandy isabelline, the rest blackish, the outermost with the outer web white; sides of the face marked with black; supercilium dull white; under parts white, the breast washed with grey and spotted with blackish brown; beak horn-brown; legs china-white; iris brown. Culmen 1·15, wing 4·7, tail 3·55, tarsus 1·3 inch. Sexes alike. The variation in colour is considerable, some specimens being much greyer than others, but the extreme of the grey and rufous forms are both found in N. Africa.

Hab. North Africa down to about 16° N. lat.; Cape Verde Islands; Arabia; Palestine, where it is rare; Persia; Afghanistan, Sind, and Cutch; is said to occur rarely north of the Mediterranean.

This is essentially a desert form, avoiding cultivated places and inhabiting only the sandy flat desert, and is always found singly or in pairs and never in flocks. Its flight resembles that of the Hoopoe, and on the ground it runs swiftly, like a *Cursorius*. Though usually seen on the ground it occasionally perches on a bush. It feeds on coleoptera and other insects, and on seeds. Its song, which consists only of three or four notes, is a melancholy querulous whistle. It is resident throughout its range and breeds in April. The nest, which is placed on the ground, is constructed of twigs of desert bushes and grass-bents, interwoven with spiders' webs and lined with cottony portions of plants. The eggs, usually 3 in number, are greyish white with pale ashy shell-blotches and clay-brown spots and dots which are more numerous at the larger end, and measure about 0·79 by 0·59.

540. Dupont's Lark.

CERTHILAUDA DUPONTI.

Certhilauda duponti (Vieill.), Faun. Franç. p. 173, pl. 76, fig. 2 (1820); Dresser, iv. p. 279, pl. 227; (Sharpe) Cat. B. Br. Mus. xiii. p. 526; *C. margaritæ*, Kœnig, J. f. O. 1888, p. 228, Taf. ii.

♂ *ad.* (N. Africa). Crown, nape, and upper parts rufous brown, the feathers margined with creamy buff or dirty white, those forming a mesial stripe, one above and behind each eye, and the sides of the nape with broad white margins; quills dark brown margined with white and creamy brown, the secondaries tipped, the inner ones margined on both webs, with pale creamy brown; middle rectrices pale reddish brown, the rest brown; the outermost chiefly white; a dark streak on each side of the throat, and the lower throat and breast spotted with brown and rufous; rest of under parts white; the sides of the head and lower breast washed with pale rufous

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and rufous buff; flanks streaked with rufous; bill curved and elongated, blackish brown; legs pale reddish; iris brown. Culmen 1·0, wing 4·0, tail 2·8, tarsus 0·87, hind-toe 0·37, hind-claw 0·38 inch.

Hab. The extreme south of the Iberian peninsula (where it is rare), Tunis, and the Algerian Sahara.

Frequents open places in the desert and feeds on insects and seeds. Its flight is strong, and its song is said to be pleasant. It is usually seen singly or in small families, never in flocks, and said to be rather shy and wary. Its nest is placed on the ground and is shallow, and the eggs, usually 4 in number, are dull white spotted with hair-brown, the spots being often collected round the larger end. In size they measure about 0·87 by 0·67.

I have compared specimens of Dr. Kœnig's *C. margaritæ*, and cannot separate it from the present species. Dr. Sharpe (*l.c.*) separates subspecifically, under the name *Chersophilus lusitanicus*, a form described by Prof. Barboza du Bocages as *Certhilauda duponti* var. *lusitanica* (Jorn. Lisb. 1887, p. 214) from Portugal, but it appears to me to be a very doubtful subspecies. I have, however, not been able to examine a specimen.

RHAMPHOCORYS, Bp., 1851.

541. Thick-Billed Lark.

RHAMPHOCORYS CLOTBEY.

Rhamphocorys clotbey, Bp. Comptes Rendus, xxi. p. 423 (1851); Dresser, iv. p. 383, pl. 242; Sharpe, Cat. B. Br. Mus. xiii. p. 527; Kœnig, J. f. O. 1895, p. 429, Tab. xiv. (Bird, nest, and eggs).

♂ *ad.* (N. Africa). Upper parts, scapulars, and smaller wing-coverts sandy isabelline, the crown greyer and indistinctly striped; quills blackish brown, the secondaries terminated with white forming a large alar patch or band; middle rectrices rufous isabelline, the rest white broadly tipped on the middle, narrowly on the outer ones, with dark brown; sides of the head, face, and of the upper throat black; with a streak below the eye, and a spot below the ear white; chin, throat, and under parts white spotted with black on the breast and upper abdomen and with a long black central patch; flanks and breast washed with isabelline; beak and legs sandy brown, the beak very stout; iris dark brown. Culmen 0·8, height of beak at base 0·5, width of mandible at base 0·37, wing 4·9, tail 2·8, tarsus 0·83 inch. The female differs from the male in being paler, the black less pure, and here and there washed with rufous buff.

Hab. Resident in the desert regions of Algeria and Tunis.

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It is only found in the true desert, where it appears to affect the bases of the hillocks, and is generally met with in pairs or small family parties. Its flight is strong and it runs with great celerity. Its food consists of insects and small seeds. On the wing it utters a lark-like twitter or whistle, but I find no description of any song. It breeds in April, and the nest, which is placed in a depression on the ground under a bush, is constructed of grass-bents and plant-stems, lined with finer bents and occasionally with hair, and is large and well built. The eggs, usually 4 in number, are thin-shelled and fragile, cream-coloured with a pale apricot tinge, spotted all over with rusty red and rose-violet, and measure about 0·95 by 0·75.

OTOCORYS, Bp., 1838.

542. The Shore-Lark.

OTOCORYS ALPESTRIS.

Otocorys alpestris (Linn.), Syst. Nat. i. p. 289 (1766); (Wilson) Am. Orn. i. p. 85, pl. 5, fig. 4; (Naum.) iv. p. 149, Taf. 99; (Hewitson) i. p. 178, pl. xlv*; (Gould) B. of E. iii. pl. 164; id. B. of Gt. Brit. iii. pl. 18; Newton, i. p. 604; Dresser, iv. p. 387, pl. 243; Sharpe, Cat. B. Br. Mus. xiii. p. 541; Saunders, p. 259; Lilford, iv. p. 1, pl. 1; Ridgway, p. 348.

Lodola-gola-gialla, Ital.; *Berglerche*, German; *Bergleeuwerik*, Dutch; *Bjærglaerke*, Dan. and Norweg.; *Berglärka*, Swed.; *Tunturileivonen, Kello-lintu*, Finn.; *Ruossa-alap*, Lapp.; *Javronok-snejny*, Russ.

♂ *ad.* (Lapland). A band across the fore-crown and an elongated tuft on each side of the crown, lores and cheeks black; forehead and a stripe surrounding the ear-coverts pale sulphur yellow; hind-crown, nape, and upper parts pinkish brown, the back striped with brown; quills dark brown; wing-coverts pinkish brown, all margined and tipped with white; central rectrices reddish brown, the rest black margined with white; a large pectoral shield black, separated from the black on the head; chin and throat pale sulphur yellow; rest of the under parts white, the flanks streaked with brown and washed with reddish brown; bill greyish black, paler at the base below; legs blackish; iris dark brown. Culmen 0·65, wing 4·0, tail 2·8, tarsus 0·88, hind-toe with claw 0·6 inch. Female smaller and duller in colour. In the winter the colours are obscured by yellowish brown margins to the feathers and the yellowish colour is deeper.

Hab. Northern portions of both continents, in winter found in continental Europe, down to the Mediterranean (rarely), Great Britain, and in Asia to N. China; North-eastern North America, in winter south to the Carolinas, Illinois, &c.

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Frequents like other Larks open places, stubble fields and fallow land, where in winter it roams about in flocks, feeding on grain and seeds, and is also often met with on the sea coast and is tame and tolerably easy of approach. It breeds in the north of Europe, Asia, and America; in Scandinavia on the fells, and in Finmark even on the seashore, nidification commencing in May, and two broods are generally reared in the season. Its call-note is beautiful, like the sound of a bell, and it is an excellent songster, its song somewhat resembling that of the Skylark, and is uttered when the bird is on the wing, but also when it is perched on a stone or on the ground. The nest, which is placed on the ground, is constructed of grass-bents and plant-stems lined with plant cotton or reindeer hair, and the eggs, 4 or 5 in number, are yellowish grey spotted with wood-brown surface-markings and a few indistinct grey shell-blotches, and occasionally with a few blackish lines. In size they average about 0·88 by 0·61.

543. Elwes's Shore-Lark.

OTOCORYS ELWESI.

Otocorys elwesi, Blanf. J.A.S. Beng. xii. pt. ii. p. 62 (1872); Sharpe, Cat. B. Br. Mus. xiii. p. 534; Oates, F. Brit. Ind. Birds, ii. p. 321; *O. penicillata* (nec. Gould), Jerdon, B. of Ind. ii. p. 431; *O. nigrifrons*, Prjev. Mongol i Strana Tangut. ii. p. 103 (1876); *O. teleschowi*, id. Ibis, 1887, p. 416; "*O. sibirica*, Eversm.," David and Oust. Ois. Chine, p. 316.

♂ *ad.* (Turkestan). Resembles *O. penicillata* in general plumage, differing in having the black on the throat separated from that on the ear-coverts by a white band; bill black above, pale at the base below; legs black, soles yellowish; iris brown. Culmen 0·63, wing 4·65, tail 3·5, tarsus 0·85 inch.

Hab. Turkestan, eastward to Mongolia and Northern China; Sikhim and the eastern Himalayas to Tibet.

Inhabits the mountain ranges, and is often to be met with at high altitudes. In general habits it does not appear to differ from *O. penicillata*, and its mode of nidification, nest, and eggs resemble those of that species.

544. Subsp. Otocorys longirostris.

Otocorys longirostris, Moore, P.Z.S. 1855, p. 215, pl. 3; Sharpe, Cat. B. Br. Mus. xiii. p. 536; Oates, F. Brit. Ind. Birds, ii. p. 320.

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♂ *ad.* Differs from *O. elwesi* in having a longer bill, in being larger in size, and as a rule, less vinous in tinge of colour; the feathers on the upper parts have larger shaft streaks, and the pale parts of the head are white and never yellow. Culmen 0·72, wing 5·0, tail 3·7, tarsus 0·95 inch.

Hab. The more elevated portions of the Himalayas from Kashmir and Ladak to Kumaon and the western portion of Tibet.

Frequents the more elevated portions of the Mountain ranges, occurring up to an elevation of 17,000 and 18,000 feet, and in general habits does not differ from *O. elwesi*.

545. Subsp. Otocorys brandti.

Otocorys brandti, Dresser, B. of E. iv. p. 402 (1874); Sharpe, Cat. B. Br. Mus. xiii. p. 536; *O. parvexi*, Tacz. Bull. Soc. Zool. Fr. 1876, p. 161; id. F. O.-Sib. O. p. 423; ? *O. petrophila*, Severtz. J. f. O. 1873, p. 379; *O. albigula*, auctt. nec. Brandt.

♂ *ad.* (Kirghis Steppes). Differs from *O. elwesi* in being smaller, somewhat paler in colour and having a smaller and stouter bill. Culmen 0·52, wing 4·4, tail 3·3, tarsus 0·82 inch.

Hab. The Kirghis steppes, Turkestan, the Altai Mountains occurring east as far as Kiachta in the Transbaikal district.

In general habits it resembles *O. elwesi*, but appears to frequent the elevated steppes and sand deserts more than the mountain ranges.

546. Algerian Shore-Lark.

OTOCORYS BILOPHA.

Otocorys bilopha (Temm.), Pl. Col. iii. pl. 244, fig. 1 (1823); Dresser, iv. p. 399, pl. 245; Sharpe, Cat. B. Br. Mus. xiii. p. 537; Kœnig, J. f. O. 1895, Tab. x.; 1896, Tab. vii. fig. 8 (eggs).

Sebácha, Arabic.

♂ *ad.* (Algeria). Upper parts pale rufescent isabelline, more rufous on the wing-coverts and inner secondaries; the black on the head and breast as in *O. alpestris*, but the horn-like feathers are longer; quills greyish brown margined with isabelline white, the secondaries white-tipped; central rectrices like the back, the rest black, the outer feathers white on the outer web; chin, throat, and sides of the neck pure white; rest of the under parts white, the flanks washed with rufous isabelline; legs paler than in *O. alpestris*. Culmen 0·55, wing 3·8, tail 2·85, tarsus 0·82, hind-toe with claw 0·6 inch. The female has the black on the crown replaced by dark brown, the facial patch, pectoral shield, and crown-tufts smaller than in the male.

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Hab. N. Africa from Algeria to Arabia, and is said to have occurred in Southern Spain.

Inhabits the elevated stony plateau land, more especially places where the *Helianthemum* flourishes, and is usually to be met with in solitary pairs in the summer, and in small bands in the winter, not in large flocks. Its call-note is a soft *tiri-tiri, tiri-tiri*, and its song, which is uttered from a stone or a hillock, is described as being pleasant and melodious. It breeds in April or May, the nest, which is constructed of grass-bents and plant-stems, worked together with spiders' webs, and lined with plant cotton and wool, is placed on the ground, frequently at the foot of a *Helianthemum* bush, in a depression scratched out by the bird itself. The eggs, 2 or 3 in number, are dull white or creamy white, spotted or marked with pale violet underlying shell- and clay-brown or reddish brown surface-markings, and in size average about 0·83 by 0·59.

547. Atlas Mountain Shore-Lark.

OTOCORYS ATLAS.

Otocorys atlas, Whitaker, Bull. B.O.C. vii. p. xlvii. (1898); id. Ibis, 1898, p. 604, pl. xiii.

♂ *ad.* "Resembles *O. elwesi*, but differs from that species in having the upper wing-coverts of a uniform sandy-brown colour, the same as the back, and not vinaceous, while the hind-crown and nape are of a rich rufescent hue, and the upper throat of a pale sulphur colour. The black of the lower throat and cheeks is distinctly separated by a yellowish white patch, as in *O. alpestris*, while the general colour of the upper parts, the black over the base of the bill, the bill itself, and the long hornlets are all as in *O. penicillata*. Iris brown; bill greyish black; legs black. Total length about 7 inches. Culmen 0·60, wing 4·45, tarsus 0·80 inch." (Whitaker.)

Hab. Atlas Mountains, N. Africa.

I have not had an opportunity of examining a specimen of this Shore-Lark, which appears to be a southern and western form of *O. alpestris*, closely allied to *O. elwesi*.

548. Eastern Shore-Lark.

OTOCORYS PENICILLATA.

Otocorys penicillata, Gould, P.Z.S. 1837, p. 126; Dresser, iv. p. 395, pl. 244; Sharpe, Cat. B. Br. Mus. xiii. p. 530; Oates, F. Brit. Ind. Birds, ii. p. 319; *O. scriba* (Bp.), Comp. List, p. 37 (1838); *O. albigula*, Bp. Consp. i. p. 246 (1850); *O. larvata*, De Filipp. Arch. Zool. Anat. etc. ii. p. 381 (1863).

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♂ *ad.* (Persia). Differs from *O. alpestris* in having the upper parts paler, the whole of the neck, face, throat, and upper breast, except a patch covering the chin and upper throat, deep black; a band across the base of the bill joining the lores also black; and the throat patch is pure white, there being no yellow on the throat or head. Culmen 0·62, wing 4·6, tail 3·3, tarsus 0·85, hind-toe with claw 0·62 inch.

Hab. S.E. Europe, Asia Minor, the Caucasus, Palestine, Syria, Transcaspia, Persia, Turkestan, Afghanistan, and Gilgit; frequenting the mountains up to 12,000 or 15,000 feet in summer, descending to the plains in winter.

In general habits it resembles the Shore-Lark, and like that species runs on the ground with ease and great rapidity. It feeds on seeds and insects in summer and on the former only in winter. Its song is described as being rich and melodious. It breeds high up in the mountains at the edge of the snow, late in May, and the nest, which is placed on the ground, is constructed of dry plant-stems, bents, and portions of the flat leaves of a thistle, lined with finer bents; and the eggs, 4 to 5 in number, resemble those of *O. alpestris*, but are larger, measuring 0·95 by 0·71, and paler in colour, the markings being nearly obsolete in most specimens.

Dr. Sharpe recognises two subspecies, viz. *O. bicornis* (Cat. B. Br. Mus. xiii. p. 532) and *O. diluta* (*tom. cit.* pp. 533, 670); but after a careful comparison of specimens I cannot recognise either of these even as subspecies, as they are merely slightly paler varieties of *O. penicillata*, and indeed I failed to distinguish them from specimens from Erzeroom of true *O. penicillata*.

Like all birds whose range is very extensive, the Larks belonging to the genus *Otocorys* are subject to considerable, though often but very trifling, local variation, and in a review of the genus recently published (Proc. U.S. Nat. Mus. xxiv. pp. 801–884) Mr. Oberholser recognises as many as *thirty-six* species and subspecies.

MELANOCORYPHA, Boie, 1828.

549. Calandra Lark.

MELANOCORYPHA CALANDRA.

Melanocorypha calandra (Linn.), Syst. Nat. i. p. 288 (1766); (Naum.) iv. p. 127, Taf. 98, fig. 1; (Gould) B. of E. iii. pl. 162; id. B. of. Gt. Brit. iii. pl. 19; Newton, i. p. 646; Dresser, iv. p. 365 pls. 238, fig. 1, 239; Sharpe, Cat. B. Br. Mus. xiii. p. 551; Saunders, p. 258.

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Calandre, French; *Alondra-calandria*, Span.; *Cochico*, Portug.; *Calandra*, Ital.; *Kalanderlerche*, German; *Bolchoi-stepnoi-Javronok*, Russ.

♂ *ad.* (Crimea). Crown, nape, and upper parts, including the lesser wing-coverts fulvous grey, the feathers dark brown in the middle; wings dark brown, the primaries narrowly, the secondaries broader margined with buffy white, the latter broadly tipped with white, the larger and median coverts margined with warm buff; middle rectrices brown, margined with fulvous buff, the rest blackish brown, the outer ones tipped with white, the two outermost almost all white; lores and supercilium dull white; chin, throat, and under parts white, on each side of the neck a large black patch; upper breast tinged with fulvous and streaked with brown; flanks washed with buffy grey; beak horn-brown, reddish at base below; legs reddish brown; iris dark brown. Culmen 0·75, wing 5·3, tail 2·8, tarsus 1·05 inch. The female is smaller, has the neck patches smaller, the neck spotted with black, and is generally more rufous in tinge.

Hab. Central and Southern Europe, N. Africa, Palestine, Asia Minor; east through Persia to Afghanistan and Turkestan; of doubtful occurrence in Great Britain.

Inhabits both the hills and plains, cultivated and wild fallow land, and is wild and wary. Its song is rich and melodious, and for that reason it is often kept as a cage bird. It is also said to be a good mimic. It feeds on insects, worms, and seeds, and is partial to dusting itself in the sand. Nidification commences in May, and two broods are generally reared in the season. In the summer it is found in pairs, and in the winter in small families, seldom or never in large flocks. The nest, which is placed on the ground, usually in a field or on a plain, is constructed of grass-bents, plant-stems, and rootlets, and the eggs, 4 to 5 in number, are buffy grey, dull white, or olive-green, with ash-grey shell and liver-brown or nut-brown surface-spots and blotches, and average about 0·95 by 0·72. Specimens from Albania and Dalmatia have the upper parts darker and the black on the neck more extended, almost confluent in front.

550. Long-Billed Calandra Lark.

MELANOCORYPHA MAXIMA.

Melanocorypha maxima, Gould, B. of As. iv. pl. 72 (1867); Sharpe, Cat. B. Br. Mus. xiii. p. 554; Oates, F. Brit. Ind. Birds, ii. p. 322.

Javronok-Velikan, Russ.

♂ *ad.* (Kan-su). Differs from *M. calandra* in being much larger and in having the black patches on the sides of the neck nearly obsolete;

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upper parts, wings, and tail as in *M. calandra*, except that the quills are more broadly tipped with white and the plumage is darker; under parts white, the breast washed with ashy grey, and with a few faint brown spots; an obsolete dark patch on each side of the breast; bill long and slightly curved. Culmen 1·1, wing 6·05, tail 3·7, tarsus 1·15, hind-toe with claw 1·2 inch. The female is smaller and has a smaller bill. The young bird is nearly black above, the feathers margined with fulvous buff, the breast-feathers blackish margined with yellowish, the rest of the under parts pale yellow.

Hab. The elevated portions of Sikhim and Tibet to Kan-su and Koko-nor.

Inhabits the marshy meadows in the mountains, and in the winter collects in large flocks. Its song is very loud and said to be good, and the bird is an excellent mimic. Nothing is as yet known respecting its nidification.

551. Eastern Calandra Lark.

MELANOCORYPHA BIMACULATA.

Melanocorypha bimaculata (Ménétr.), Cat. Rais. p. 37 (1832); Dresser, iv. p. 361, pl. 238, figs. 2, 3; Sharpe, Cat. B. Br. Mus. xiii. p. 555; Oates, F. Brit. Ind. Birds, ii. p. 323; *M. torquata*, Blyth, J.A.S.B. xvi. p. 476 (1847); Hûme and Henders. Lah. to Yark. p. 265, pl. 27.

♂ *ad.* (Turkestan). Differs from *M. calandra* in being smaller and in lacking the white tips to the secondaries, and the white on the outer tail-feathers, and all but the central ones are conspicuously tipped with white, the black also extends across the breast; bill horn-brown, the under mandible yellowish, legs fleshy brown; iris dark brown. Culmen 0·7, wing 4·75, tail 2·5, tarsus 1·0 inch. Sexes alike.

Hab. N.E. Africa, Syria, Palestine, Asia Minor, the Caucasus, Transcaspia, Persia, Afghanistan, and Turkestan, Siberia as far north as Irkutsk, and Krasnoyarsk; wintering in Sind, Rajputana, Bahâwalpur, the Punjab, the N.W. Provinces of India, and Oudh.

Frequents dry sandy localities, both cultivated and fallow, and stubble-fields. In the winter it collects in large flocks, and roams about the country in search of food, and it is said to be a somewhat shy and wary bird. Its song is loud and sweet, and it is a favourite cage bird with the Afghans. It places its nest, like *M. calandra*, on the ground, constructing it of grass-bents, and portions of dry plants, lined with the same, but somewhat

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finer, materials. The eggs, which are usually deposited in May, resemble those of *M. calandra* but are smaller, measuring about 0·9 by 0·67, and are as a rule greener in ground colour.

552. White-winged Lark.

MELANOCORYPHA SIBIRICA.

Melancorypha sibirica (Gm.), Syst. Nat. i. p. 799 (1788); Newton, i. p. 642; Dresser, iv. p. 373, pl. 240; Sharpe, Cat. B. Br. Mus. xiii. p. 557; Saunders, p. 257; *M. leucoptera* (Pall.), Zoogr. Ross. As. i. p. 518, Tab. 33, fig. 2 (1811); Gould, B. of Gt. Brit. iii. pl. 20; Lilford, iv. p. 12, pl. 6.

♂ *ad.* (Turkey). Crown, ear-coverts, lesser and median wing-coverts rusty red, the hind crown striped with brown; upper parts greyish brown striped with dark brown; upper tail-coverts ferruginous striped with dark brown; primaries and inner secondaries blackish brown margined and tipped with dull white; rest of the secondaries white; median rectrices broadly margined with rusty red, the outer one white, the next with the outer web white, the rest blackish brown; supercilium, chin, throat, and under parts white, the breast indistinctly spotted with brown and the flanks striped with rufous brown; beak brownish horn-yellowish at base; legs fleshy yellowish brown; iris brown. Culmen 0·6, wing 4·7, tail 2·9, tarsus 1·0 inch. The female differs only in being duller in colour.

Hab. Eastern and S. E. Europe; Asia as far east as the Yenesei, south to Transcaspia. A rare straggler to Italy, has been once obtained in Heligoland, three times in Belgium, and twice in the south of England.

Frequents grassy plains and open districts, and is said to resemble *A. arvensis* in its general habits, and like that species utters its song, which is very similar but shorter, when hovering in the air. Its nest is placed on the ground, in any slight depression in the soil, or under a tussock or tuft of grass; and late in April or early in May 3 to 5 eggs are laid, which are dirty grey, dull white or yellowish, spotted and blotched all over with dull hair-brown, but in some, the markings are collected and form a ring round the larger end. In size they measure about 0·91 by 0·67.

553. Mongolian Lark.

MELANOCORYPHA MONGOLICA.

Melanocorypha mongolica (Pall.), Reis. Russ. Reichs, iii. p. 697 (1776); (Radde) Reis. Sud. Ost. Sib. Vög. ii. p. 146, Taf. iii. fig. 1; David and Oust. Ois. Chine, p. 319, pl. 88; Sharpe, Cat. B. Br. Mus. xiii. p. 558; Tacz. F. O. Sib. O. p. 417.

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♂ *ad.* (E. Siberia). Upper parts chestnut-brown, more rufous on the head and rump, the back, wing-coverts, and rump obscurely marked with darker rufous; outer quills blackish with narrow paler margins; inner primaries and secondaries white; innermost secondaries dark brown margined with rufous and rufous buff; tail brown, the outer feathers largely white; under parts white, the flanks washed with rufous; supercilium white, on the sides of the neck a large black patch narrowly joined in front; bill flesh colour; legs reddish brown; iris brown. Culmen 0·78, wing 5·0, tail 3·3, tarsus 1·0 inch. In the winter the upper parts are more fulvous in tinge and the feathers have ashy margins; the black on the neck is interrupted in the middle. Sexes alike.

Hab. Southern Dauria, Mongolia, and Manchuria; N. China in the winter season.

Frequents the elevated plateaux and hilly steppes, and is a resident in most parts of its range, merely changing locality according to season. Its song is short, somewhat like that of the Skylark, and is usually uttered whilst the bird is in the air. This Lark is a good mimic, and often imitates the song of other species. Its flight is undulating and rapid, and though it is usually seen on the ground it will occasionally perch on a bush. Like its allies it feeds chiefly on seeds, and in the winter collects in large flocks and wanders about in search of food. Its nest is placed on the ground in a small depression in the soil, or in a grass tussock, and the eggs, which are deposited late in May or in June, are said to resemble those of the crested Lark, and in size average about 0·91 by 0·71.

554. Black Lark.

MELANOCORYPHA YELTONIENSIS.

Melanocorypha yeltoniensis (Forst.), Phil. Trans. lvii. p. 350 (1767); Dresser, iv. p. 377. pl. 241; Sharpe, Cat. B. Br. Mus. xiii. p. 559; *M. tartarica* (Pall.), Reis. R. Reichs, ii. Anhang. p. 707 (1773); Gould, B. of E. iii. pl. 161.

Javronok-tschernõi, Russ.

♂ *ad.* (S. Russia). Entire plumage jet black the feathers on the upper parts with narrow sandy margins here and there. Culmen 0·7, wing 5·3, tail 3·0, tarsus 1·0 inch. In the autumn the black is obscured by tolerably broad sandy margins to the feathers. The female has the upper parts pale sandy brown marked with dark brown, the rump and lower back rufescent; rectrices and remiges blackish brown with narrow buffy white

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margins; under parts white, the lower throat and breast spotted, the flanks striped with blackish brown. The young male resembles the female, but the upper parts are darker and the under parts boldly blotched with black.

Hab. Southern Russia, Transcaspia, Western Siberia; east to Turkestan and north to Indirsk; is stated to have occurred in Belgium, Austria, and Pomerania.

Frequents the desert steppes and feeds on seeds of various kind, especially those of saline plants. In the winter it collects in large flocks, and is then often seen on roads, and near houses. Its call-note is low and piping, and its song somewhat resembles that of the Skylark, and is usually uttered when the bird is on the wing. Its nest is a careless structure placed on the ground, usually most carefully concealed, and the eggs 4 to 5 in number resemble those of *M. calandra* but are more boldly marked, and the ground colour is usually white. In size they measure about 0·91 by 0·75.

ALAUDA, Linn., 1766.

555. SKYLARK.

ALAUDA ARVENSIS.

Alauda arvensis, Linn, Syst. Nat. i. p. 287 (1766); Naum. iv. p. 157, Taf. 100, fig. 1; Hewitson, p. 176, pl. xlv. fig. 1; Gould, B. of E. iii. pl. 166; id. B. of Gt. Brit. iii. pl. 15; Newton, i. p. 614; Dresser, iv. p. 307, pl. 231; Sharpe, Cat. B. Br. Mus. xiii. p. 567; Oates, F. Brit. Ind. Birds, ii. p. 324; Saunders, p. 249; Lilford, iv. p. 3, pl. 2; *A. cantarella*, Bp. Comp. List. p. 36 (1838); *A. leiopus* vel *orientalis*, Hodgs. in Gray's Zool. Misc. p. 84 (1844); *A. japonica*, Temm. and Schlegel, Faun. Jap. p. 87, pl. 47, (1850); *A. triborhyncha*, Hodgs. apud Horsf. and Moore, Cat. ii. p. 467 (1858); *A. guttata*, Brooks, J.A.S.B. xli. pt. ii. p. 85 (1872); *A. blakistoni*, Stejn. Proc. Biol. Soc. Wash. ii. p. 98 (1884).

Alouette des champs, French; *Laverca*, Portug.; *Zurriaga*, Span.; *Lodola*, Ital.; *Heidelerche*, German; *Leeuwerik*, Dutch; *Sanglærke*, Dan.; *Lærke*, Norw.; *Sånglärka*, Swed.; *Kivenviha*, Finn.; *Polevoi-javronok*, Russ.

♂ *ad.* (England). Upper parts dark brown margined with fulvous and warm sandy buff; crown slightly crested; supercilium pale buffy white; quills dark brown narrowly margined with dull white; tail brown, the

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middle feathers greyish brown, the outer feathers nearly all white, the next with the outer web white ; under parts buffy white, the flanks dusky, the throat speckled and the breast streaked with brown ; bill brown above, dull flesh-colour below ; legs yellowish brown ; iris dark brown Culmen 0·6, wing 4·4, tail 2·8, tarsus 0·9, hind-toe with claw 1·05 inch. Sexes alike except that the female is slightly smaller. The young bird has the feathers margined with sandy buff and tipped with dull white on the upper parts, and the under parts are creamy buff streaked with brown on the breast.

Hab. Europe; from Northern Scandinavia to the Mediterranean; the Canaries, Madeira; North Africa and Asia Minor in winter; Asia as far east as the Pacific, and north to Kamchatka; in winter Afghanistan, Persia, Turkestan, North-West India and Northern China, Mongolia and Manchuria; the northern island of Japan in summer, resident in the southern island.

Frequents plains, fields, and open places, and in winter collects in large flocks ranging about the country in search of food, and throughout its range it appears to be a migrant. It feeds chiefly on seeds and grain, leaves of grass and of other plants, and in summer to some extent on insects. It is generally seen on the ground, hardly ever perching on a bush, or tree. It runs with ease and rapidity and its flight is easy, being a succession of slight undulations with short alternate cessations. Its song is usually uttered whilst the bird is hovering and circling high in the air, but is often continued after it has alighted, and is cheerful and protracted. It breeds in Europe as far north as Bodö, and possibly the Varanger fiord ; sparingly in North Africa, and in Asia as far north as Kamchatka. The nest which is placed on the ground is constructed of straws and grass-bents lined with similar but finer materials, and the eggs 3 to 5 in number are dull grey or olive-grey, with pale purplish or light brown shell-markings and dark nut-brown surface-spots or blotches, which are frequently collected round the larger end and measure about 0·94 by 0·65.

The Skylark is subject to considerable variation in shade of colour, and has by many authors been separated into several subspecies of which I may mention *A. cantarella*, from the Mediterranean east to Persia, N.-W. India, Siberia and N. China. *A. guttata* and *A. leiopus* from Kashmir and the Himalayas. *A. blakistoni* from Kamchatka and E. Siberia and *A. japonica* from Japan, but all these intergrade *inter se* and with typical *A. arvensis*, so that I am unable to assign even subspecific rank to any of those forms or varieties.

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556. Indian Skylark.

ALAUDA GULGULA.

Alauda gulgula, Frankl. P.Z.S. 1831, p. 119 ; Sharpe, Cat. B. Br. Mus. xiii. p. 575 ; Oates, F. Brit. Ind. ii. p. 326 ; Dresser, ix. p. 229, pl. 684 ; *A. cœlivox*, Swinhoe, Zool. 1859, p. 6723 ; *A. sala*, id. Ibis, 1870, p. 354 ; *A. wattersi*, id. P.Z.S., 1871, p. 389 ; *A. australis*, Brooks, Str. F. i. p. 486 (1873) ; *A. peguensis*, Oates, Str. Feath. iii. p. 343 (1875).

Bhurut, Hind. ; *Bee-lone* Burm. ; *Gomarita*, Cing.

♂ *ad.* (Transcaspia). Resembles *A. arvensis* but is greyer, has the under parts whiter, is smaller, and has the bill longer and more slender ; bill dark horn, fleshy pink at the base below ; legs fleshy brown ; iris brown. Culmen 0·65, wing 3·35, tail 2·0, tarsus 0·95, hind-toe with claw 0·84 inch. The female does not differ except in being smaller in size.

Hab. Transcaspia ; through India, Ceylon, and Burma to southern China and the Philippines.

In habits it resembles our Skylark and is found in cultivated land and also on the plains which are covered with short paddy and elephant-grass. In most of its range it appears to be resident. Its song resembles that of *A. arvensis*, and is usually uttered when the bird is circling in the air, and it is said to soar very high. Its mode of nidification is much the same as that of *A. arvensis*. The nest is placed in a depression on the ground, usually under shelter of a clod, tuft of grass or a bush, and is constructed of grass-bents, lined with finer grass, and like the Skylark it usually rears two broods in the year, from February to May, and from August to October. The eggs 3 to 5 in number are greyish or yellowish white, speckled, spotted, freckled, and sometimes blotched with pale yellowish or purplish brown or very pale inky purple, and in size average about 0·8 by 0·61.

557. Woodlark.

ALAUDA ARBOREA.

Alauda arborea, Linn. Syst. Nat. i. p. 287 (1766) ; Naum. iv. p. 192 Taf. 100, fig. 2 ; Hewitson, i. p. 179, pl. xlv. fig. 3 ; Gould, B. of E. iii. pl. 167 ; id. B. of Gt. Brit. iii. pl. 16 ; Newton, i. p. 625 ; Dresser, iv. p. 321, pl. 232 ; (Sharpe), Cat. B. Br. Mus. xiii. p. 636 ; Saunders, p. 251 ; Lilford, iv. p. 8, pl. 4.

Alouette lulu, French ; *Cotovia*, Portug. ; *Totovia, Alondra de monte*, Span. ; *Tottavilla* Ital. ; *Baumlerche, Heidelerche*,

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German; *Boom-Leeuwerik*, Dutch; *Trælærke*, Norw.; *Hedelærke*, Dan.; *Trädlärka*, Swed.; *Mehtaleivo*, Finn.; *Youla*, *Liesnoi-Javronok*, Russ.

♂ *ad.* (England). Upper parts coloured as in *A. arvensis* but smaller, the crest fuller, the supercilium whiter and more pronounced, the outer larger wing-coverts are deep brown, but white at the base and tip; first primary much longer; tail short, the outermost feather with a grey terminal patch, the next two with a smaller white patch at the tip; breast more clearly striped than in *A. arvensis*; beak dark brown above, pale flesh coloured below; legs pale flesh brown; iris dark brown. Culmen 0·45, wing 3·9, tail 2·1, tarsus 0·8, hind-toe with claw 0·85 inch. The female resembles the male, and the difference in the winter plumage is merely that it is slightly more rufous on the upper parts.

Hab. Europe, from central Scandinavia to the Mediterranean, east to the Ural; the Caucasus and Transcaspia; in winter to Palestine and N. Africa, and it also breeds in the Atlas mountains. In Great Britain, as in most of its range, it is partly resident and partly migratory.

Frequents uncultivated ground, especially sandy localities and heaths where trees are scattered about, and is not found in woods. It is lively and sprightly in its habits, but more shy than the Skylark. In summer it feeds chiefly on insects but on seeds and leaves of plants at other seasons, and seeks its food on the ground, running with ease and celerity, and roosts, like the Skylark, on the ground, but perches more often on trees. Its song is sweet and flute like, and uttered when it has risen to some height in the air and is descending spirally, or when ascending and floating in the air. The nest is placed on the ground, usually well concealed, and is constructed of grass-bents, and moss, lined with finer bents, hair, and wool, and is more compact than that of *A. arvensis*. The eggs 4 to 5 in number are white, sometimes with a greyish or reddish tinge, finely spotted with reddish brown, olive-brown or dark nut-brown, and measure about 0·82 by 0·62. Two broods are usually reared in the season.

CORYDUS.

558. Crested Lark.

CORYDUS CRISTATUS.

Corydus cristatus (Linn.), Syst. Nat. i. p. 288 (1766); (Naum.) iv. p. 134, Taf. 99, fig. 1; (Hewitson) i. p. 178, pl. xlv. fig. 5; (Gould), B. of E. iii. pl. 165; id. B. of Gt. Brit. iii. pl. 17; (Newton), i. p. 632; (Dresser), iv. p. 285, pls. 228, 229; (David and Oust.), Ois. Chine, p. 317; (Sharpe), Cat. B. Br. Mus.

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xiii. p. 628 ; (Oates), F. Brit. Ind. Birds, ii. p. 337 ; (Saunders), p. 253 ; (Lilford), iv. p. 6. pl. 3 ; *Galerita senegalensis*, (P.L.S. Müller), Syst. Nat. Suppl. p. 137 (1776) ; *G. theclæ*, Brehm., Naum. 1858, p. 210 ; *G. magna*, Hume, Ibis, 1871, p. 407 ; *G. macrorhyncha*, Tristr. Ibis, 1859, p. 57 ; Dresser, tom. cit. p. 301, pl. 235, fig. 2 ; *G. randonii*, Loche, Cat. Mam. and B. Alg. p. 85 (1858).

Cochevis-huppé, French ; *Cotovia de poupa*, Portug. ; *Cogujada, Carretera*, Span. ; *Capellaccia*, Ital. ; *Haubenlerche*, German ; *Kuifleeuwerik*, Dutch ; *Toplærke*, Dan. ; *Tofslärka*, Swed. ; *Cochlatyi-Javronok*, Russ. ; *Cubaha*, Moor. ; *Kobá*, Arabic ; *Chendul*, Hindu.

♂ *ad.* (Germany). Feathers on the crown much elongated forming a conspicuous crest ; upper parts greyish brown marked with blackish brown ; supercilium buffy white ; wings and tail dark brown, margined with greyish brown and warm buff ; under parts white, the breast and sides of head and of the neck washed with buff, spotted and marked with blackish brown ; flanks streaked and washed with greyish brown ; under surface of the wing vinous buff ; bill dull yellowish brown ; legs pale fleshy brown ; iris dark brown. Culmen 0·75, wing 3·9, tail 2·5, tarsus 1·0 inch. Sexes alike. The young bird is paler, has the upper parts and the quills margined with buffy white and the crest is not developed.

This species is subject to considerable individual variation both in colour and size and has consequently been greatly subdivided by modern ornithologists. Dr. Sharpe in the Cat. B. Br. Mus. recognizes three species of Palæarctic Crested Larks, viz. ; *G. cristata*, *G. thecklæ*, and *G. isabellina*, but Mr. Hartert who uses trinomials, recognizes (Novit. Zool. iv. p. 142) seventeen subspecies, and Baron von Erlanger, following his lead, recognizes thirteen species and subspecies from N. Africa alone (J.f.O. 1899 p. 326), viz. *Galerita cristata kleinschmidti*, Erl., *G. cristata macrorhyncha*, *G. cristata arenicola*, (Tristr.), *G. cristata reichenowi*, *G. thecklæ thecklæ*, *G. thecklæ miramaræ* (Hom.), *G. thecklæ ruficolor*, Whitaker, *G. thecklæ harterti*, Erl., *G. thecklæ superflua*, (Hart.), *G. thecklæ deichleri*, Erl., *G. thecklæ carolinæ*, Erl., *G. thecklæ rüppelli*, Hart., and *G. thecklæ ellioti*, Hart. I am unable to recognise any of these forms as possessing specific value and agree with Dr. Sharpe, except that I cannot recognise *G. thecklæ* as separable, though this form is generally somewhat smaller, has the upper parts darker and clearly marked, and the under parts tinged with buff, the bill being also generally somewhat shorter and stouter.

Galerita being preoccupied in entomology, I cannot do otherwise than propose a new generic name, viz. that of *Corydus* (*κόρυδος* of Aristotle).

Hab. Europe generally, as far north as Southern Sweden ; of rare occurrence in the British Islands ; North Africa as far

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south as the Gambia; Asia from North Turkestan to Central India and east to China, not occurring as far north as Siberia. In Southern India a fairly separable form, *G. malabarica*, is resident.

Frequents plains, and to some extent also hilly districts, is often seen on roads, and in villages and towns, and affects inhabited localities, fields, and both cultivated and uncultivated places. Throughout its range it is a resident or a partial migrant, according to locality. Its call-note is a soft, low whistle, and its song, which is generally uttered whilst the bird is on the wing, but sometimes also when it is sitting on the ground, is clear, sweet, and well modulated. Its nest, which is constructed of grass-bents, weeds, rootlets, and is sometimes lined with a few horse-hairs, is placed on the ground, and usually in close proximity to human habitations, and the eggs, from 4 to 6 in number, are greyish white, sometimes with a brown or greenish tinge, and are marked with purplish grey or pale brown shell-blotches, and pale or dark brown surface-spots and blotches, and in size average about 0·91 by 0·62. They are deposited from the middle of April to the middle of June. The food of the Crested Lark consists chiefly of seeds of various kinds, but also of insects.

559. Subsp. Corydus isabellinus.

Corydus isabellinus, Bp. Conspect. i. p. 245 (1850); (Dresser), iv. p. 303, pl. 230, fig. 1; (Sharpe), Cat. B. Br. Mus. xiii. p. 635; (Kœnig.), J.f.O. 1895, Tab. vii; *G. abyssinica*, Bp. ut supra, (1850).

♂ *ad.* (N. Africa). Differs from *G. cristata* in being much paler, the upper parts being rufescent isabelline with faintly darker centres, the under parts white, the breast indistinctly spotted with pale sandy brown; bill brownish above, pale flesh colour below; legs pale flesh; iris brown. Culmen 0·62, wing 4·0, tail 2·7, tarsus 1·0 inch. The female is similar but a trifle smaller.

Hab. The desert portions of North Africa (Algeria, Tunis, and Egypt), ranging east as far as Abyssinia, everywhere resident.

Frequents the true desert and varies somewhat in tone of colour according to the nature of the soil. In general habits it resembles *G. cristata*, but its song is described as being infinitely superior to the song of that bird. Its eggs are bluish white in ground colour marked all over with pale ash, clay-yellow and blackish brown spots and blotches, and are usually deposited in May.

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CALANDRELLA, Kaup, 1829.

560. Short-toed Lark.

CALANDRELLA BRACHYDACTYLA.

Calandrella brachydactyla (Leisl.) Wetter. Annal. iii. p. 357, Tab. xix. (1814); (Naum.) iv. p. 188, Taf. 98, fig. 2; (Gould), B. of E. iii. pl. 163; id. B. of Gt. Brit. iii. pl. 21; (Hewitson), i. p. 181, pl. xlv. fig. 4; Newton, i. p. 637; Dresser, iv. p. 341, pl. 235; Sharpe, Cat. B. Br. Mus. xiii. p. 580; Tacz. F. O. Sib. O. p. 415; Oates, F. Brit. Ind. Birds, ii. p. 327; Saunders, p. 255; Lilford, iv. p. 9, pl. 5; *C. kollyi*, (Temm.) Pt., col. iii. pl. 305, fig. 1. (1824); *C. hermonensis*, Tristr. P.Z.S., 1864, p. 434; *C. dukhunensis* (Sykes), P.Z.S., 1832, p. 93; *C. tibetana*, Brooks, Str. F. 1880, p. 488; *C. acutirostris*, Hume and Henderson, Lah. to Yark., p. 265 (1873).

La Calandrelle, French; *Carreirola*, Portug.; *Terrera*, Span.; *Calandrino*, Ital.; *Isabelle-Lerche*, German; *Maloui-Javronok*, Russ.; *Baghaira*, Hindu.

♂ *ad.* (S. Europe). Upper parts rufous sandy brown streaked with blackish brown; superciliary streak creamy white; quills blackish brown, the outer web of first quill creamy white; secondaries and wing-coverts margined with creamy buff, the inner secondaries much elongated nearly reaching the tip of the wing; middle rectrices dark brown margined with rufous buff; outer rectrices with the outer web and terminal portion buffy white or white; remaining tail-feathers blackish brown; under parts white; breast washed with buff; a blackish brown patch on each side of the upper breast; flanks washed with buff; bill dull horn-brown, paler below; legs pale brown; iris dark brown. Culmen 0·4 to 5, wing 3·5 to 3·75, tail 2·4 to 2·6, tarsus 0·75 to 0·8, hind-toe with claw 0·55, 0·6 inch. Sexes alike except that the female is somewhat smaller. The young bird has the upper parts variegated with light reddish brown, black and white, the elongated inner secondaries with a purplish gloss, tail tipped with pale buff.

Hab. Central and Southern Europe; North Africa; Asia east to Lake Baikal; Mongolia and North China, south to Northern India in winter; of rare occurrence in England and also on Heligoland. In the southern part of its range it is chiefly resident.

Frequents the lowlands, in summer chiefly sandy plains, and is tame and confiding in its general habits. Its song is short and not of a high quality, and is uttered either when the bird is on the wing or when perched on a clod or stone. Its food consists chiefly of small seeds of various kinds. In winter

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it collects in large flocks and ranges about the fields or plains in search of food. Its nest, which is placed on the ground in a hoof-print or any depression in the soil, usually at the foot of a tuft of grass or a low bush, is a rather loose structure of grass-bents, lined with wool or feathers, and sometimes hair. The eggs, 4 to 5 in number, are usually deposited in May, and are dull white dotted or blurred with hair brown, and measure about 0·77 by 0·62.

Dr. Sharpe recognizes *C. dukhunensis*, *tibetana*, and *acutirostris* as separable from *C. brachydactyla*, *C. dukhunensis* as being larger and generally more rufous; *C. tibetana* as being usually greyer in tone of colour, and having more white on the outer tail-feather; and *C. acutirostris* in being also greyer, but having less white on the outer tail-feathers, but I cannot find that these small differences hold good in a series, and therefore prefer uniting all with *C. brachydactyla*.

561. Lesser Short-toed Lark.

CALANDRELLA MINOR.

Calandrella minor (Cab.), Mus. Hein. i. p. 123 (1850); Dresser, iv. p. 349, pl. 236, fig. 1; (Sharpe), Cat. B. Br. Mus. xiii. p. 588; *C. reboudia*, (Loche), Cat. Mam. and Ois. Algér, p. 83 (1858).

Silŏa, *Tliesch*, Arab.

♂ *ad.* (Algeria). Differs from *C. brachydactyla* in having much shorter secondaries, usually 0·75 to 1·0 inch shorter than the longest primary, and in lacking the blackish patch on each side of the breast, this being spotted or narrowly striped with dark brown; soft parts as in *C. pispoletta*. Culmen 0·45, wing 3·5, tail 2·05, tarsus 0·73 inch.

Hab. Canary Islands; North Africa east to Egypt, Palestine, and the countries bordering the Persian Gulf; has occurred in Malta and Italy as a rare straggler.

Frequents dry arid plains and is as a rule shy. Throughout its range it appears to be a resident, and after the breeding season collects in small flocks, and wanders about the country in search of food, which consists of seeds of various kinds and also to some extent of insects. Its nest is placed on the ground, usually in a tussock of grass or under the shelter of a stone, and is constructed of dry grass-bents. Its eggs, which are deposited from April to June, usually 3 in number, are dull white with a creamy tinge, spotted and blotched with dull brown or dark clay-coloured surface-marks, and violet-grey shell-blotches, and in size average about 0·82 by 0·65. Its

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song, which is exceedingly sweet and melodious, is uttered whilst the bird is on the wing.

Examples from the Canaries have the upper parts rufous brown, and the breast more strongly spotted, and have been separated by Mr. Hartert (Bull, B.O. Club xi, p. 64) under the name of *Calandrella pispoletta canariensis*.

562. Andalucian Short-toed Lark.

CALANDRELLA BÆTICA.

Calandrella bætica, Dresser, B. of E. iv. p. 351, pl. 236, fig. 2 (1873); (Sharpe), Cat. B. Br. Mus. xiii. p. 588.

Cujailla, Marismeña, Span.

♂ *ad.* (Andalucia). Upper parts darker than in *C. minor*, and lacking all tinge of rufous, and the throat, breast, and flanks broadly spotted and striped with deep blackish brown, beak horn brown, yellowish at base below; legs dull brown; iris brown. Culmen 0·45, wing 3·4, tail 2·05, tarsus 0·8, hind toe with claw 0·6 inch.

Hab. Southern Spain.

Inhabits the marismas of southern Spain where it is a common bird, and is not shy. Its song like that of *C. minor* is melodious, and is generally uttered during short flights. It is said also to mimic the notes of other birds. The nest, which is constructed of dry grass and rootlets with a few feathers in the lining, is placed on the ground, and is better constructed than that of *C. brachydactyla*. The eggs, which are deposited in April or May, are boldly marked with pale purplish brown shell-spots, and dark hair-brown surface-blotches, and in size measure about 0·83 by 0·62.

563. Pallas' Short-toed Lark,

CALANDRELLA PISPOLETTA.

Calandrella pispoletta (Pall.), Zoogr. Ross. As. i. p. 526 (1811); Dresser, iv. p. 355, pl. 237; (Sharpe), Cat. B. Br. Mus. xiii. p. 587; *C. cheleensis* (Swinh.), P.Z.S. 1871, p. 390; *C. heinei* (E. von Homeyer), J. f. O. 1873, p. 197; *C. persica* (Sharpe), op. cit. p. 590.

♂ *ad.* (Volga). Upper parts dark earth grey, striped with blackish brown and without any tinge of rufous; secondaries fully an inch shorter than the longest primary; outer rectrices white, with a broad brown stripe on the inner web, the next with the outer web only white; under parts white, the breast tinged with buff, and finely striped with dark brown;

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flanks washed with brown and striped with darker brown; beak dull horn, paler at the base below; legs pale brown; iris dark brown. Culmen 0·5, wing 3·85, tail 2·5, tarsus 0·85, hind toe with claw 0·6 inch.

Hab. Asia Minor, S. Russia, Persia, Afghanistan, the Punjab, east to China.

Inhabits the desert portions of the steppes where it is numerous, and in general habits is said to resemble *C. brachydactyla*. I do not find any description of its song except that it is said to be of a high order. Its food, like that of its congeners, consists of seeds of various kinds and of insects. Its nest is loosely constructed of dry grass bents without any regular lining, and is placed on the ground. The eggs, usually 3 in number, are deposited in April or May, and resemble those of *C. brachydactyla* but are a trifle larger, have a clearer and paler ground colour, and the spots are rather darker and more clearly defined.

564. Pale Short-toed Lark.

CALANDRELLA LEUCOPHÆA.

Calandrella leucophæa, Severtz. Turk. Jevot. p. 142 (1873); Dresser, iv. p. 343; (Sharpe), Cat. B. Br. Mus. xiii. p. 593; *Alaudula seebohmi*, Sharpe, tom. cit. p. 590 (1890).

♂ *ad.* (Turkestan). Differs from *C. pispoletta* in having the upper parts sandy grey, somewhat indistinctly striped with pale brown, and the underparts white, the breast faintly striped with pale brown. Culmen 0·45, wing 3·85, tail 2·65, tarsus 0·8 inch.

Hab. The Kirghis steppes and Turkestan, east to Mongolia; in India it is replaced by a nearly allied species, *Calandrella* or *Alaudula adamsi* Hume, which is smaller and has a proportionately smaller beak.

In habits it appears to resemble *C. pispoletta*, except that it affects sandy desert localities in preference to cultivated and fertile ground. Its nest and eggs are as yet unknown, but will doubtless be found to resemble those of *C. adamsi* which builds a nest on the ground like that of *Corydus cristatus* but smaller, and deposits 2 to 3 eggs dull white spotted and mottled with pale greenish brown.

Alaudula seebohmi, I may add, is usually slightly more rufous in tinge than specimens from Turkestan, but some specimens are greyer than others, and I cannot separate it from the present species.

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AMMOMANES, Cab., 1850.

565. Desert-Lark.

AMMOMANES DESERTI.

Ammomanes deserti (Licht.), Verz. Doubl. p. 28 (1823); Dresser, iv p. 329, pl. 233; Sharpe, Cat. B. Br. Mus. xiii. p. 646; *A. phœnicuroides* (Blyth), J. A. S. Beng. xxii. p. 583 (1853); Sharpe, tom. cit. p. 647; *A. fraterculus* Tristr., P.Z.S. 1864, p. 431; *A. algeriensis*; Sharpe, tom. cit. p. 645.

♂ *ad.* (Egypt). Upper parts varying from warm rufescent isabelline to greyish sandy isabelline; supercilium indistinct, sandy isabelline; quills and tail brown externally, margined with sandy rufous, the middle tail-feathers like the back; under parts pale isabelline, the throat sometimes with indistinct darker markings; legs pale greenish slate; iris brown. Culmen 0·6, wing 3·9, tail 2·8, tarsus 0·85 inch. Sexes alike. The young bird is generally more rufous, and has the basal portion and the margins of all the tail feathers pale ferruginous, with only the terminal portion dark brown.

Hab. North Africa, south to Abyssinia; Palestine, east to Afghanistan, Sind, and the northern Punjab.

Essentially a desert bird it is usually to be found in sandy, wild localities where its plumage assimilates in colour with the soil. In its general habits it most nearly resembles the Crested Lark and is often to be found seeking its food on the roads. Its flight is weak and it seldom flies any distance. Its song is agreeable but not varied and is uttered when the bird is on the wing, often at a considerable altitude. Its food consists of seeds of various kinds and insects. Its nest, which is loosely constructed of grass-bents, is placed on the ground, under a low bush or a tuft of grass, and the eggs 3 or 4 in number are deposited in April or May, and are creamy grey or white, closely marked with purplish grey shell-markings and dull brown surface-spots and measure about 0·87 by 0·62.

In general coloration the species varies from rufous to greyish rufous, and the latter variety has been separated by several authors under the name *Ammomanes fraterculus*, but it seems to me without just reason. Nor can I recognise *A. algeriensis* which is the rufous form, as distinct. *A. phœnicuroides* from India belongs to the grey form, and has the quills narrowly margined with warm ashy fulvous, and not so rufous as

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in *A. deserti*. It has also been treated as distinct, but it appears to me that it should be united with the present species.

566. Gould's Desert-Lark.

AMMOMANES CINCTURA.

Ammomanes cinctura (Gould), Voy. Beagle, Birds, p. 87 (1841); Dresser, iv. p. 335, pl. 234; Sharpe, Cat. B. Br. Mus. xiii. p. 644, *A. arenicolor* (Sund.), Öfv. V. Ak. Förh. 1850, p. 128; *A. elegans* (C. L. Brehm), Vogelf. p. 122 (1855), *A. regulus* (Bp.), Compt. Rend. xliv. p. 1066 (1857).

♂ *ad.* (Malta). Differs from the rufous isabelline form of *A. deserti* in being smaller, and having the tail terminated by a blackish brown band, upper parts warm rufous isabelline, rather more rufescent than in *A. deserti*; primaries dusky brown at the ends; bill greyish horn; legs pale greyish; iris brown. Culmen 0·48, wing 3·5, tail 2·2, tarsus 0·82, hind toe with claw 0·42 inch.

Hab. Cape Verde Islands; the whole of the desert region of N. Africa; Arabia, Persia; has once occurred at Malta.

In habits it is said to resemble *A. deserti*, and is an inhabitant of the stony portions of the desert regions, where it feeds on small seeds and to some extent on insects. Its song is weak but shrill, and is generally uttered when the bird is floating in the air. It breeds in the Cape Verde Islands from December to March, and in N. Africa late in April. The nest which is placed on the ground under shelter of a stone or bush and surrounded with small stones is constructed of grass-bents and plant-stems, lined with a little wool and small pieces of rag when obtainable. The eggs, 2 to 3 in number, are white, or apricot pink when fresh and unblown, finely spotted, chiefly at the larger end, with ashy grey and dull violet.

In tinge of plumage the Lark varies not a little, some being greyer and others more rufous in tinge, and examples from Nubia are very pale. In India it is represented by *A. phœnicura* (Frankl.), which is much larger and as dark or darker than extreme varieties of *A. deserti*, but has the terminal portion of the tail blackish, as in *A. cinctura*. Mr. Hartert has described the Cape Verde bird under the name *A. cinctura arenicolor*, and that from Eastern Persia as *A. cinctura zarudnyi*, as subspecies.

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STURNUS, Linn., 1766.

567. STARLING.

STURNUS VULGARIS.

Sturnus vulgaris, Linn. Syst. Nat. i. p. 290 (1766); Naum. ii. p. 187, Taf. 62; Hewitson, i. p. 216, pl. lv. fig. 1; Gould, B. of E. iii. p. 210; id. B. of Gt. Brit. iii. pls. 53, 54; Newton, ii. p. 228; Dresser, iv. p. 405, pls. 246, 247; Sharpe, Cat. B. Br. Mus. xiii. p. 27; Saunders, p. 227; Lilford, ii. p. 63, pls. 28, 29; *S. færoensis*, Feilden, B. of Faroe Isl. p. 47 (1872); *S. nitens*, Brehm, Isis, 1828, p. 1282; *S. indicus*, Hodgs. in Gray's Zool. Misc. p. 84 (1844); *S. minor*, Hume, Stray F. 1873, p. 207; *S. humei*, Brooks, Ibis, 1876, p. 500; *S. menzbieri*, Sharpe, Ibis, 1888, p. 438, pl. 1.

Étourneau vulgaire, French; *Estornino*, Span.; *Storno*, Ital.; *Gemeiner Staar*, German; *Spreeuw*, Dutch; *Stær*, Dan. and Norw.; *Stare*, Swed.; *Musta-Kottarainen*, Finn.; *Skvoretz*, Russ.; *Sarsour*, Arab.; *Telia-maina*, Hindu.; *Tilgiri*, Kashm.

♂ *ad.* (England). Glossy black, with purple, green and steel-blue reflections, and slightly spotted with buffy white or pale brownish buff; the head and neck glossed, with purple or greenish purple, the wing-coverts with steel-green or steel-blue, the under parts with steel-purple or steel-green; beak yellowish; legs light reddish brown; iris hazel. Culmen 1·1, wing 5·0, tail 2·75, tarsus 1·2 inch. In winter it is duller in colour, and profusely spotted with buffy white. The female is duller than the male, and has the beak blackish brown. The young bird is sooty brown, the under parts marked with white, and the quills margined with dull rufous. Specimens from the Faroes frequently have a larger and broader bill, and those from India are as a rule smaller, and have fewer spots.

Hab. Europe, from the Faroes and Northern Norway to the Mediterranean; Maderia, the Canary Isles, and Azores; North Africa; Asia from Siberia down to India; has once occurred in Greenland.

Throughout its range the Starling is partly resident and partly migratory, breeding as a rule in the northern and central portions, and wintering in the south of Europe and in North Africa; in Asia it breeds as far south as Sind. In its habits it is essentially gregarious even during the breeding season, and in winter collects in large flocks. It frequents arable and pasture land and feeds on worms and insects of various kinds, and occasionally in severe winter on grain and berries, and in the autumn it also feeds to some extent on fruit, especially mulberries. Its note is a somewhat harsh chatter, and a melodious whistle, the latter constituting its song in which it

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introduces bits of the songs of other birds, or their call-notes. Its nest is a somewhat bulky structure of grass or roots, lined with feathers and hair, and is placed in the hollow of a tree, in the hole of a wall, under the eaves of a roof, in a chimney, in a fissure of the rocks or in a hole in the ground, and the eggs 4 to 7 in number are deposited from April to June, according to locality, and are delicate pale blue with a greenish tinge, and in size average about 1·17 by 0·84. Occasionally, but very rarely, an open nest is built.

568. Purple-winged Starling.

STURNUS PURPURASCENS.

Sturnus purpurascens, Gould, P.Z.S. 1868, p. 219; id. B. of Asia, v. pl. 44; Dresser, iv. p. 419, pl. 249; Sharpe, Cat. B. Br. Mus. xiii. p. 37; *S. porphyronotus*; Sharpe, Ibis, 1888, p. 438.

♂ *ad.* (Erzeroum). Differs from *S. vulgaris*, in having the wing-coverts, scapulars, and rump purple or lake-purple, the throat bronze, and the abdomen and flanks purple or bronze-purple; soft parts as in *S. vulgaris*. Culmen 1·1, wing 5·2, tail 2·7, tarsus 1·2 inch.

Hab. S. E. Europe, Cyprus, Asia Minor; east to Afghanstan and Yarkand; the plains of India in winter.

In habits and nidification it does not differ from the Common Starling.

569. Subsp. Sturnus poltaratzskyi.

Sturnus poltaratzskyi, Finsch, P.Z.S. 1878, p. 712; Sharpe, Cat. B. Br. Mus. xiii. p. 36; Dresser, ix. p. 233; *S. nobilior*, Hume, Stray F. 1879, p. 175; *S. menzbieri*; Tacz. F. O. Sib. O. p. 543 (1893, nec. Sharpe).

ad. Differs from *S. purpurascens* merely in having the hind-neck greenish purple, the throat purplish bronze instead of greenish bronze, and the flanks dark purple instead of bronze-purple, and it is at best but a doubtful subspecies.

Hab. Persia; the Altai mountains, Afghanistan, and Siberia, visiting India in the winter.

In habits and nidification not differing from *S. vulgaris*.

570. Subsp. Sturnus caucasicus.

Sturnus caucasicus, Lorenz. Beitr. Orn. Cauc. p. 9, pl. v. fig. 1 (1887); Sharpe, Cat. B. Br. Mus. xiii. p. 37; Dresser, ix. p. 234.

Blestyastche-skvoretz, Russ.

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ad. Differs from *S. poltaratzskyi* only in having the rump glossed with green, whereas in that species the green tinge does not extend below the lower part of the back, the rump being purple.

Hab. The Caucasus and Northern Persia.

In habits and nidification not differing from *S. vulgaris*.

571. Sardinian Starling.

STURNUS UNICOLOR.

Sturnus unicolor, "de la Marm." Temm. Man. d'Orn. ed. 2, i. p. 133 (1820); Naum. xiii. p. 226, Taf. 351, fig. 1; Gould, B. of E. iii. pl. 211; Dresser, iv. p. 415, pl. 248; Sharpe, Cat. B. Br. Mus. xiii. p. 39.

Étourneau unicolore, French; *Estorninho*, Portug.; *Tordo*, Span.; *Storno nero*, *Sturneddu*, Ital.; *Zerzour*, Arab.; *Zarzor kehal*, Moorish.

♂ *ad.* (Spain). Black glossed with violet purple; wings and tail velvety black, the outer webs and tips of the feathers glossed with purple; feathers on the under parts elongated and lanceolate; bill yellow, bluish at the base below; legs brownish flesh; iris dark brown. Culmen 1·05, wing 5·0, tail 2·5, tarsus 1·2 inch. The female is rather duller than the male, and the young bird resembles that of *S. vulgaris*, but is darker. In winter the adult has the plumage slightly dusted with greyish, and is spotted with small whitish arrow-shaped dots, and the bill is blackish.

Hab. Portugal, Spain, rare in southern France; Italy and Sicily east to Palestine; North West Africa. In the countries north of the Mediterranean it is as a rule a summer resident, but in North West Africa it is to be met with throughout the year.

It frequents wooded districts more than the Common Starling which it resembles in its general habits and note, but its flight is swifter. Its nest is generally placed in a hollow tree or a hole in a cliff, and is a loose structure of dry grass, straws, and feathers, and the eggs resemble those of *S. vulgaris* but are if anything rather darker in colour.

PASTOR, Temm., 1815.

572. Rose-coloured Starling.

PASTOR ROSEUS.

Pastor roseus (Linn.), Syst. Nat. i. p. 294 (1766); (Naum.), ii. p. 206, Taf. 63; Hewitson, i. p. 217, pl. lv. fig. 2; Gould, B. of E. iii. pl. 212; id. B. of Gt. Brit. iii. pl. 56; Newton, ii. p. 243; Dresser, iv. p. 423, pl. 250; Sharpe, Cat. B. Br. Mus. xiii. p. 63; Oates, F. Brit. Ind. Birds, i. p. 518; Saunders, p. 229; Lilford, ii. p. 68, pl. 31.

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Martin roselin, French; *Storno marino*, Ital.; *Rosenstaar*, German; *Rosovõi skvoretz*, Russ.; *Golabi maina*, *Tilyer*, Hindu.

♂ *ad.* (Italy). Head, neck, fore-breast, wings, tail, and thighs black, glossed with purple and green; head heavily crested; back, rump, breast, and abdomen rich pale rose colour; beak rose colour, brown at the base; legs dull brownish; iris reddish brown. Culmen 0·95, wing 5·0, tail 2·7, tarsus 1·3 inch. The female is duller in colour than the male. In the winter the rose colour is obscured to some extent with brownish, and the feathers on the head, throat, and neck are tipped with buff. The young bird is sandy grey above, whitish below; the head and fore-neck striped with brown; wings and tail dark brown, the feathers edged with rufous buff; beak yellowish brown; legs brown.

Hab. Southern Europe, rare or accidental in Great Britain, Scandinavia, Northern, Central, and Western Europe; commoner in Eastern Europe, Asia Minor, and Central Asia; winters in India as far east as Sikhim, and south as Ceylon and the Andamans; of rare or accidental occurrence in N. Africa.

Though in general habits this bird much resembles the Starling it is usually found in large flocks, which appear regularly in a most irregular manner as at Villafranca in 1875. Its food consists in the summer of insects of various kinds, grasshoppers, locusts, &c., otherwise of grain, seeds, and fruit, and it is said to be very partial to mulberries. It rarely breeds further west than Turkey, but is nearly always found nesting in vast communities. The nest is a very loose structure of grass-bents, &c., and may be placed in the ground or amongst stones or on buildings, often but little concealed. The eggs 3 to 5 in number are usually deposited in June, and are glossy white, faintly tinged with pale blue, sometimes pure white, and measure about 1·12 by 0·81.

SPODIOPSAR, Sharpe, 1889.

573. Grey Starling.

SPODIOPSAR CINERACEUS.

Spodiopsar cineraceus (Temm.), Pl. col. ii. pl. 556 (1827); (id. and Schlegel), Faun. Jap. Aves, p. 85, pl. 45; (Sharpe), Cat. B. Br. Mus. xiii. p. 41; (Tacz.) F. O. Sib. O. p. 544; Oates, F. Brit. Ind. Birds, i. p. 524.

Muku-dori, Jap.

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♂ *ad.* (Japan). Crown blackish, the forehead intermixed with white, the feathers elongated and lanceolate; upper parts generally dark earth-brown, the upper tail-coverts white; quills blackish, the primaries narrowly, the secondaries broadly margined with white; tail blackish, broadly terminated on the inner webs with white; ear-coverts white, finely streaked with black; throat, breast, and flanks slaty blackish, the last paler; rest of the under parts white; bill orange, the tip horny, the base of the lower mandible and the angle of the mouth brownish green; legs yellow; iris brown surrounded by white. Culmen 1·2, wing 5·1, tail 2·7, tarsus 1·2 inch. The female has the upper parts duller, the chin white, the throat dull slaty brown, the breast pale brown marked and streaked with white, and the flanks pale brown. The young is russet brown, the inner webs of the tail-feathers are tipped with white, the quills are margined with paler brown, the ear-coverts whitish and the chin nearly pure white.

Hab. Eastern Siberia, Mongolia, N. China, Corea, and Japan, wintering in South China; a rare visitant to Burma.

This species frequents the plains where trees are scattered about and appears to be somewhat shy in its habits, In the winter it wanders about the country in large flocks. Its nest is placed in the hollow of an old tree and its eggs, 3 to 5, sometimes as many as 7 in number, are usually deposited in May. These are pale blue or turquoise blue, occasionally slightly dotted with brown and measure about 1·15 by 0·78.

STURNIA, Less., 1837.

574. Daurian Starling.

STURNIA STURNINA.

Sturnia sturnina (Pall.), Reis. Russ. R. iii. p. 695 (1776); Sharpe, Cat. B. Br. Mus. xiii. p. 71; (Oates) F. Brit. Ind. Birds, i. p. 530; *S. daurica* (Pall.), Act. Holm. 1778, p. 197, Taf. vii.; (David and Oust.) Ois. Chine, p. 362; (Tacz.) F. O. Sib. O. p. 457.

♂ *ad.* (China). Crown, neck, and breast ashy grey, becoming nearly white on the throat and breast; a nuchal patch, back, wings, and tail glossy purplish black, quills white on most of the inner web, the secondaries ashy grey on the basal half of the outer web; wing-coverts and scapulars broadly tipped with white; rump and upper tail-coverts brownish isabelline; flanks same as the breast; the rest of the under parts white, the under tail-coverts washed with warm buff, bill blackish brown, whitish at the base below; legs dull earthy green; iris dark

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brown. Culmen 0·8, wing 4·2, tail 2·1, tarsus 1·0 inch. The female is browner and duller, the upper parts being dark greyish brown and the slate-grey on the head is duller.

Hab. Eastern Siberia, Northern China and Mongolia, wintering in Burma, the Nicobars, and the Malay Peninsula to Java.

Like its congener *S. cineraceus*, with which it often consorts, it inhabits the plains where there are old trees, and it is said to be rather tame and trustful than shy. It places its nest in the hollow of a tree, and the eggs are usually deposited early in June. The male of this species is said to have a sweet though somewhat short song. Like its congeners its food consists exclusively of insects. It breeds in Dauria, but I have not been able to examine authentic eggs.

Temenuchus pagodarum (Gm.), *Acridotheres tristis* (Linn.), and *Acridotheres ginginianus* (Lath.), three well known Indian birds, have strayed into Afghanistan, but as they do not belong to Palæarctic genera I have deemed it best to exclude them.

575. Red-cheeked Starling.

STURNIA VIOLACEA.

Sturnia violacea (Bodd.), Tabl. Pl. Enl. p. 11 (1783); Sharpe, Cat. B. Br. Mus. xiii. p. 70; *S. ruficollis* (Wagler), Syst. Av. *Pastor*, sp. 19 (1827); *S. pyrrhogenys* (Temm. and Schlegel), Faun. Jap. Aves, p. 86 (1850); *S. dominicana*, Salvad. Ucc. Born. p. 269 (1874).

Shima-muku-dori, Jap.

♂ *ad.* Differs from *S. sturnina* in having the head and neck dull creamy grey; the nuchal patch wanting; the chin and upper throat dull rufous isabelline, the sides of the neck more or less marked with chestnut-red, the breast and flanks warm slate-grey and the scapulars glossy black unmarked with white; bill and feet dark bluish. Culmen 0·8, wing 4·2, tail 2·2, tarsus 0·95 inch. The female resembles that of *S. sturnina* but has the crown paler, and there is no trace of the light colour on the scapulars.

Hab. Japan, wintering in the Philippines, Borneo, Celebes, and the Moluccas.

With regard to the habits of this species, I find nothing on record nor do I find any description of its nest or eggs.

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PYRRHOCORAX Vieill., 1816.

576. Chough.

PYRRHOCORAX GRACULUS.

Pyrrhocorax graculus (Linn.), Syst. Nat. i. p. 158 (1766) ; (Naum.) ii. p. 114, Taf. 57, fig. 2 ; (Hewitson), i. p. 218, pl. lvi ; (Gould), B. of E. iii. pl. 219 ; id. B. of Gt. Brit. iii. pl. 62 ; Newton, ii. p. 252 ; Dresser, iv. p. 437, pl. 251, fig. 1 ; (Sharpe), Cat. B. Br. Mus. iii. p. 146 ; (Tacz.), F. O. Sib. O. p. 538 ; Saunders, p. 231 ; Lilford, ii. p. 56, pl. 24 ; *P. eremita* (Linn.), Syst. Nat. i. p. 159 (1766) ; (Oates), F. Brit. Ind. Birds, i. p. 43.

Crave, French ; *Grajo*, *Jucala*, Span. ; *Steinkrähe*, German ; *Kluschitza*, *Bortevschik*, Russ.

♂ *ad.* (England). Jet black, the upper parts glossed with steel-blue and steel-violet ; beak and legs vermilion-red ; claws black ; iris brown. Culmen 2·1, wing 10·9, tail 5·8, tarsus 2·1 inch. Sexes alike. The young are duller in colour and have the beak and legs brownish orange.

Hab. The Chough inhabits Great Britain, but neither Scandinavia nor northern Europe, though found in southern France, Spain, Portugal, Switzerland, Italy, Sicily, Greece, and the Urals ; the Canaries, North Africa, as far south as Abyssinia, Asia Minor and Asia as far east as China, north to south-east Siberia and south to the Himalayas.

Throughout its range it is resident, inhabiting higher altitudes during the summer, descending lower for the winter. Its flight is erratic and resembles that of the Jackdaw, and its note is not unlike that of that species but is clearer and shriller. It feeds on insects of various kinds, and to some extent on grain. Its nest is placed in a fissure in the rocks, is tolerably large and is constructed of sticks, and well lined with roots, wool, and hair, and the eggs, 4 to 5 in number, which are usually deposited in April or May, are white or creamy white, sometimes with a greenish tinge, with faint purplish underlying shell-markings and have brown surface-spots and blotches, and in size average about 1·58 by 1·10.

Birds from the Himalayas are as a rule somewhat larger than those from Europe, and Gould separated them, calling the Himalayan bird *Fregilus himalayanus* but no one now reckons them as separable. In the British Islands the haunts of the Chough are confined to certain parts of the sea-coast and, except as a straggler, it is never seen inland.

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577. Alpine Chough.

PYRRHOCORAX ALPINUS.

Pyrrhocorax alpinus, Vieill. N. Dict. vi. p. 568 (1816); Gould, B. of E. iii. pl. 218; Dresser, iv. p. 445, pl. 251, fig. 2; Sharpe, Cat. B. Br. Mus. iii. p. 148; Oates, F. Brit. Ind. Birds, i. p. 44; *Corvus pyrrhocorax*, Linn. Syst. Nat. i. p. 158 (1766); Naum. ii. p. 107, Taf. 57, fig. 1.

Choucas des Alpes, French; *Alpenkrähe*, *Alpendohle*, German; *Grajo*, Span.; *Gracchio*, Ital.

♂ *ad.* (Switzerland). Glossy black with purple and bottle-green reflections; beak yellow with an orange tinge; legs and feet vermilion-red, soles blackish; claws blackish horn; iris brown. Culmen 1·2, wing 10·3, tail 6·0, tarsus 1·7 inch. Sexes alike. The young are brownish black, beak yellowish at the base, otherwise blackish; legs blackish marked with red in the articulations.

Hab. The mountains of Southern Europe from Spain to the southern Ural; rare in Portugal; Asia Minor; Palestine; the Himalayas from Kashmir to Bhutan; is said to have occurred in England.

In habits it resembles the common Chough, but frequents higher altitudes than that species and in the summer is found up to 15,000 feet and even higher, but in the winter it descends into the valleys but never frequents the sea-coast. Its flight is swift and it frequently hovers or glides in circles with outstretched wings. It feeds on insects of various kinds, seeds, berries, and grain. Its nest, which is placed in the fissure of a rock, or amongst old ruins, is constructed of twigs, grasses, and roots, lined with leaves, hair, and rootlets, and is large and bulky. The eggs, 4 to 5 in number are deposited in April or May, and resemble those of *P. graculus* but are smaller, averaging about 1·48 by 1·05.

PODOCES, Fischer, 1823.

578. Pander's Ground-Chough.

PODOCES PANDERI.

Podoces panderi, Fischer, Mém. Sc. Imp. Nat. Mosc. vi. p. 251, pl. xxi. (1823); Gould, B. of Asia, v. pl. 62; Dresser, ix. p. 239, pl. 685; Sharpe, Cat. B. Br. Mus. iii. p. 150; Cab. J.f.O. 1873, pl. iii. figs. 37, 38 (eggs); Newton, P.Z.S. 1897, p. 893, pl. li. fig. 10 (egg).

Tchour-Tchour, Turki.

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ad. (Transcaspia). Upper parts blue-grey, the rump creamy vinous; chin, throat, and under tail-coverts white; rest of under parts vinous isabelline; wings black and white; tail, upper tail-coverts, a spot before and behind the eye, and a large patch on the lower neck, black; bill plumbeous, becoming blackish towards the tip; legs pale blue-grey; iris dark brown. Culmen 1·1, wing 4·6, tail 3·85, tarsus 1·7 inch. Sexes alike.

Hab. Transcaspia and Turkestan.

A resident species, found chiefly where the saxaul bush flourishes, and in sandy, barren districts. It is essentially a ground bird and but seldom perches on a bush, but runs with extreme swiftness and is not often seen on the wing. Its flight is not unlike that of a Jay, and is usually but a few feet above the ground, and is but short. Its note is peculiar, consisting of a quick repetition of peculiarly modulated syllables, *dschi-dschi-dschi*. Its food consists of various kinds of insects and their larvæ, as well as seeds, especially those of the saxaul.

Its nest, which is placed in a hole in the ground and but seldom low down on a bush, is constructed of twigs and desert plants, lined with fine grasses, strips of bark and hair, rarely a few feathers. The eggs, usually 3 or 4 in number, are deposited in February or March, and are pale greenish grey, spotted and blotched with brownish grey and greyish olive, somewhat resembling those of *Perisoreus infaustus*. In size they measure about 1·07 by 0·77.

579. Persian Ground-Chough.

PODOCES PLESKII.

Podoces pleskei, Zarudny, Ejeg. Zoolog. Mus. Imp. Akad. Nayk. i. p. xii. (1896); id. Mém. Acad. Imp. Sc. St. Petersb. vol. x. No. 1. p. 157; Harms. Orn. Monatsbericht. v. p. 181.

♂ *ad.* (E. Persia). Differs from *P. panderi* in having the upper parts warm rufous buff, not blue-grey, and the under parts paler rufous buff, the chin, upper throat, and middle of abdomen white; a black patch on the lower neck and soft parts as in *P. panderi*. Culmen 1·52, wing 4·7, tail 3·5, tarsus 1·77 inch. The female is paler and lacks the black patch on the throat, and the black behind the eye, the lores only being black.

Hab. North Eastern Persia (Birdjand).

In general habits it resembles *P. panderi* but differs in being more silent, and is swifter on foot. It nests on or close to the ground, but in one instance a nest was found in a tree fully ten feet above the ground; its nest resembles that of *P. panderi*,

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but its eggs, 4 to 6 in number, differ in having the ground colour clay-yellow, and not greenish grey. In size they average about 1·05 by 0·75.

580. Henderson's Ground-Chough.

PODOCES HENDERSONI.

Podoces hendersoni, Hume, Ibis, 1871, p. 408 ; id. Lahore to Yark. p. 244, pl. 22 ; Gould, B. of Asia, v. pl. 61 ; Sharpe, Cat. B. Br. Mus. iii. p. 151 ; Bianchi and Berezovski, Ptitz. Gansu, &c. p. 123.

Kil-yurgha, *Kum-saghizghani*, *Kum-tuché*, Turki ; *Holo-goro*, Mongol.

♂ *ad.* (Yarkand). Upper parts warm rufous isabelline, paler on the upper tail-coverts ; under parts pale isabelline, nearly white on the chin, throat, and lower abdomen ; crown and nape, wings and tail glossy purplish black ; primaries white except at the base and on the terminal portion which are purplish black ; bill and legs black ; iris brown. Culmen 1·75, wing 5·75, tail 4·3, tarsus 1·79 inch. Sexes alike.

Hab. Yarkand, Mongolia, the Gobi Desert, and Northern Tibet.

It inhabits desert plains and resembles *P. panderi* in its general habits, and likewise feeds on insects and seeds of various kinds. So far as I can ascertain its nest and eggs are as yet unknown, but it is said to breed in May and June.

581. White-tailed Ground-Chough.

PODOCES BIDDULPHI.

Podoces biddulphi, Hume, Str. Feath. 1874, p. 503 ; Sharpe, Cat. B. Br. Mus. iii. p. 151 ; Gould, B. of Asia, v. pl. 60 ; Sharpe, Second Yark. Miss. p. 22, pl. iv.

♂ *ad.* (Turkestan). Differs from *P. hendersoni* in having the sides of the throat glossy black, the middle of the throat intermixed white and black, the secondaries tipped with white and the tail white, the shafts of the feathers, and a line down the middle of the middle ones deep black ; bill and legs black ; iris brown. Culmen 1·85, wing 6·1, tail 4·3, tarsus 1·81 inch. Sexes alike.

Hab. Eastern Turkestan.

In habits this species resembles *P. panderi*, and is wild and wary. Its flight like that of its congeners is heavy, flapping, undulating, something like that of a Woodpecker. Its nest and eggs are as yet unknown.

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582. Brown Ground-Chough.

PODOCES HUMILIS.

Podoces humilis, Hume, Ibis, 1871, p. 408; id. Lah. to Yark. p. 247, pl. 23; Gould, B. of Asia, v. pl. 63; Sharpe, Cat. B. Br. Mus. iii. p. 152.

Zungak, Turki.

♂ *ad.* (Yarkand). Crown, nape, and upper surface of the body, and wings pale brown; lores blackish; hind neck, sides of head below the eye, throat, and under parts white slightly tinged with isabelline on the sides of the neck and flanks; middle tail-feathers blackish brown with warm brown margins, rest of the tail-feathers pure white; bill and legs black; iris brown. Culmen 0·9, wing 3·8, tail 2·9, tarsus 1·2 inch. Sexes alike.

Hab. Yarkand, Kan-su, and Tibet.

Frequents grassy downs at an altitude of about 1,100 feet, and does not appear to collect in flocks. Although chiefly a ground bird it is often seen perched on twigs or bushes. It feeds on worms and insects, never on grain or seeds. It breeds in June or July, making its nest in holes on the hill sides, but its eggs are as yet undescribed.

NUCIFRAGA, Briss., 1760.

583. Nutcracker.

NUCIFRAGA CARYOCATACTES.

Nucifraga caryocatactes (Linn.), Syst. Nat. i. p. 157 (1766); (Naum.) ii. p. 130, Taf. 58, fig. 2; Gould, B. of E. iii. pl. 213; id. B. of Gt. Brit. iii. pls. 65, 66; Newton, ii. p. 330; Dresser, iv. p. 451, pl. 252; Sharpe, Cat. B. Br. Mus. iii. p. 53; Tacz. F. O. Sib. O. p. 540; Saunders, p. 233; (Lilford), ii. p. 62, pl. 27.

Casse-noix, French; *Nocciolaja*, Ital.; *Notenkraker*, Dutch; *Nussheher*, *Nussknacker*, German; *Nöddekrige*, Dan.; *Nöddekrage*, Norweg.; *Nötkråka*, Swed.; *Pähkinähakinen*, Finn.; *Kedrovka*, Russ.; *Hoshi-garasu*, Jap.

♂ *ad.* (Sweden). Blackish chocolate with profuse white tear-shaped spots, crown and nape unspotted; under tail-coverts pure white; wings and tail glossy black, the former slightly spotted with white at the tips of the feathers, the latter tipped with white; beak and legs black; iris brown. Culmen 2·2, wing 7·75, tail 5·5, tarsus 1·85 inch. Sexes alike. The young bird is much duller in colour and the feathers are loose in texture.

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Hab. Northern Europe, the hilly portions of Central and Southern Europe; in Scandinavia at least up to 63° N. Lat. but rare; Northern Asia east to Japan; of rare occurrence in Great Britain.

As a rule the Nutcracker is a resident, but in some seasons considerable numbers wander throughout the country, probably in search of food. In general habits it somewhat resembles the Jay but is much less lively, and frequents conifer woods in mountain districts. Its food consists of seeds, especially those of conifers, hazel- and beechnuts, acorns, berries, and to some extent of insects. Its flight is heavy and seldom protracted, and its call-note is a harsh protracted *kräk*, *kräk*, *kräk*, and when alarmed, *dscherr*, *dscherr*. Its nest is placed on a tree, usually a conifer, is constructed of twigs, interwoven with lichens, and lined with lichen and dry grass. The eggs, which are usually deposited in March or April, 3 to 5 in number, are pale whitish sea-green finely marked with pale liver-brown, and measure about 1·31 by 1. Specimens from Siberia have the bill thinner, and have been separated subspecifically under the name *Nucifraga macrorhynchus*, C. L. Brehm, whereas those from Japan have the bill intermediate in size (*N. japonicus*, Hartert), and those from Kamchatka are whiter (*N. kamchatkensis*, Barrett Hamilton). In Kashmir the present species is replaced by *N. multimaculata*, and in the Himalayas east to Moupin by *N. hemispila*.

PERISOREUS, Bp., 1838.

584. Siberian Jay.

PERISOREUS INFAUSTUS.

Perisoreus infaustus (Linn.), Syst. Nat. i. p. 138 (1766); (Naum.) xiii. p. 215, Taf. 350; (Gould), B. of E. iii. pl. 215; Dresser, iv. p. 471, pl. 253; Sharpe, Cat. B. Br. Mus. iii. p. 103; Tacz. F. O. Sib. O. p. 507.

Unglücks-Heher, German; *Ulykkesfugl*, Dan.; *Lavskrige*, Norw.; *Lafskrika*, Swed.; *Gnovsak*, Lapp.; *Kuukainen*, *Kusankanärhi*, Finn.; *Rousha*, Russ.

♂ *ad.* (Lapland). Crown and nape sooty brown; back and under parts lead-grey, rump and upper tail-coverts fox-red, as are all the tail-feathers except the two middle ones which are lead-grey; the rest tipped with grey; wings sooty brown, the outer webs of the quills fox-red, the wing-coverts chiefly red; abdomen, flanks, and under tail-coverts rufous; beak and legs black; iris brown. Culmen 1·05, wing 5·6, tail 5·7, tarsus 1·4 inch. Sexes alike. The young bird is duller and paler in colour.

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Hab. Scandinavia north into Lapland, of rare occurrence in Denmark and N. Germany; in Asia across the entire continent south to Saghalien and the Amoor.

Frequents the conifer woods, and is by no means shy, but affects the camps of hunters, being most familiar, and the huts of the Lapps, where it can feed on the meat hung up to dry. It feeds on larvæ, small mammals, berries, etc., and is said to kill and devour young birds. Its cry is very varied being sometimes a cheerful *kook kook*, and at others a melancholy, and somewhat harsh *tjäh, tjäh*. Early in the spring whilst the snow is still on the ground it commences nidification, its nest, which is placed in a tree, close to the stem, being constructed of twigs and grey lichen, intermixed with a few feathers and a little grass, and lined with lichen and a little hair. The eggs, 3 to 5 in number, are dull white or pale greenish white with purplish grey shell-markings and well defined hair-brown surface-spots and blotches, and in size average about 1·24 by 0·85.

The Siberian bird (*P. infaustus sibiricus*, Tacz.) is as a rule rather clearer and greyer in colour than the European bird, but cannot be separated from it even subspecifically.

GARRULUS, Briss., 1760.

585. The Jay.

GARRULUS GLANDARIUS.

Garrulus glandarius (Linn.), Syst. Nat. i. p. 156 (1766); (Naum.) ii. p. 122, Taf. 58, fig. 1; Hewitson, i. p. 237, pl. lx. fig. 1; Gould, B. of E. iii. p. 214; id. B. of Gt. Brit. iii. pl. 64; Newton, ii. p. 323; Dresser, iv. p. 481, pl. 254; Sharpe Cat. B. Br. Mus. iii. p. 93; Saunders, p. 235; Lilford, ii. p. 60. pl. 26.

Geai ordinaire, French; *Gaio*, Portug.; *Arrendajo, Cabezon*, Span.: *Ghiandaja*, Ital.; *Nussheher, Eichelheher*, German; *Vlaamsche Gaai*, Dutch; *Skovskade* Dan.; *Nœddeskrige*, Norweg.; *Nötskrika*, Swed.; *Hohkanärhi, Paskanärhi*, Finn.; *Soika*, Russ.

♂ *ad.* (Denmark). Crown crested, whitish striped with black; upper parts light brownish vinous washed with grey on the back; under parts buffy white, flanks reddish; rump, upper tail-coverts, vent, and under tail-coverts white; tail and quills black, secondaries with a white patch on the basal half of the outer web, the innermost chestnut with a black patch at the tip; secondaries barred with black, white, and blue; a long black patch below the eye; bill blackish brown; legs light reddish brown; iris bluish white. Culmen 1·5, wing 7·2, tail 6·5, tarsus 1·5 inch. The female and young resemble the male but are duller in colour.

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Hab. The whole of Europe up to about 64° N. Lat., east to the Ural, and south to the Mediterranean.

In its habits it is wary and shy, and frequents wooded country, gardens, hedgerows, etc. In the summer it feeds on fruit, mice, birds'-eggs, young birds, and even on frogs, and in the winter on nuts, acorns, berries, larvæ, worms, and snails. Its note is a harsh, discordant cry resembling the syllables *räätsch rätsch* and *rrää*, and it is an excellent mimic.

Its nest, which is usually placed on a high bush or a tree generally close to the stem, is a somewhat bulky structure of sticks and twigs, neatly finished inside, and lined with rootlets and dried grass. The eggs, 5 to 6, sometimes 7 in number, are usually deposited in April or May, and are greyish white or greenish grey thickly speckled with pale brown and in some the markings are collected round the larger end. In size they measure about 1·21 by 0·92.

586. Persian Jay.

GARRULUS HYRCANUS.

Garrulus hyrcanus, Blanf. Ibis, 1873, p. 225; id. E. Persia, p. 265, pl. xviii; Dresser, ix. p. 245, pl. 686; Sharpe, Cat. B. Br. Mus. iii. p. 94.

Soika, Russ.; *Kagno-Agraw*, Armen.; *Balut-Khor*, Persian.

♂ *ad.* (Persia). General colour above rufescent vinaceous, the feathers on the crown black, margined with rufescent vinaceous; nasal bristles isabelline tipped with black; wings and tail as in *G. glandarius*; cheeks more rufous than in that species; throat pale rufescent vinaceous; rest of under parts deep vinous red, darker on the flanks; the lower abdomen, vent, under tail-coverts, and thighs white; beak, legs, and iris as in *G. glandarius*. Culmen 1·25, wing 6·5, tail 5·2, tarsus 1·6 inch. Female and young duller in colour.

Hab. Northern Persia, west to the Talysch lowlands in the Caucasus.

In habits and nidification this species does not differ from *G. glandarius*, and its eggs resemble those of that species but are as a rule slightly darker.

587. African Jay.

GARRULUS MINOR.

Garrulus minor, Verreaux, Rev. and Mag. de Zool. 1857, p. 439, pl. xiv; Dresser, ix. p. 247; Sharpe, Cat. B. Br. Mus. iii. p. 96.

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Djirire, Arab.; *Derraz*, Moorish.

♂ *ad.* (Algeria). Differs from *G. glandarius* n being smaller, in having the head and neck vinous red, the back grey, and the feathers on the crown considerably blacker; beak blackish brown; legs light reddish brown; iris pale blue. Culmen 1·1, wing 6·8, tail 6·0, tarsus 1·65 inch.

Hab. Algeria.

I find nothing on record respecting the habits and nidification of this species, but it probably does not appreciably differ therein from *G. glandarius*.

588. Brandt's Jay.

GARRULUS BRANDTI.

Garrulus brandti, Eversm. Add. Pall. Zoogr. iii. p. 8 (1843); Dresser, iv. p. 487, pl. 255; Sharpe, Cat. B. Br. Mus. iii. p. 96; Tacz. F. O. Sib. O. p. 509.

Borovaya-soika, *Rousha*, Russ.; *Urman-soeskan*, Bashkir; *Miyama-kakesu*, Japanese.

♂ *ad.* (Ural). Differs from *G. glandarius* in having the head, face, and nape rich rufous, the back much greyer, the moustachial stripe much larger, the black on the face extending almost round the eye, and the feathers on the crown have a central black line; beak blackish brown; legs dull greyish brown; iris bluish red or violet-brown. Culmen 1·1, wing 6·9, tail 6·2, tarsus 1·55 inch.

Hab. The Ural range and the Caucasus, east through the Altai, Siberia, and Manchuria to Corea, Japan, and northern China.

In general habits this species does not differ from *G. glandarius*. Its nest is described as being placed in a pine-tree and constructed of dry birch-twigs and lined with fine grass-roots. Its eggs closely resemble those of *G. glandarius*, but are glossier in texture of shell, and the markings are as a rule finer.

589. Syrian Jay.

GARRULUS ATRICAPILLUS.

Garrulus atricapillus, Isid. Geoffr. St. Hilaire, Étud. Zool. fasc. i. (1832); Dresser, iv. p. 491, pl. 256, fig. 2; Sharpe, Cat. B. Br. Mus. iii. p. 97; *G. stridens*, (Hempr. and Ehr.) Symb. Phys. Av. fol. L. (1833); *G. melanocephalus*, Gene. Mem. Accad. Torin. xxxviii. p. 298 (1834); *G. iliceti*, Licht. Nomencl. Av. p. 9 (1854).

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ad. (Palestine). Differs from *G. glandarius* in having the crest deep black, the forehead, sides of head and face, and throat pure white, the back and wing-coverts pale fawn-brown, and in having rather more white on the secondaries. Culmen 0·85, wing 7·1, tail 6·0, tarsus 1·10 inch.

Hab. Palestine, Syria, the Caucasus, and Persia.

In its habits this species is said not to differ from *G. glandarius*, and its nest and eggs resemble those of that species.

590. Turkish Black-headed Jay.

GARRULUS KRYNICKII.

Garrulus krynickii, Kalenicz. Bull. Soc. Mosc. tom. xii. p. 319, pl. 9 (1839); Dresser, iv. p. 495, pls. 256, fig. 1, 257; Sharpe, Cat. B. Br. Mus. iii. p. 99.

ad. (Turkey). Differs from *G. atricapillus* in having the forehead greyish white, each feather with a black spot extending over most of the terminal portion of the feather, the ear-coverts, sides of the face and neck vinous, and the nape and back greyish washed with rufous towards the rump. Culmen 1·35, wing 7·4, tail 6·4, tarsus 1·8 inch.

Hab. Southern Russia, Turkey, Asia Minor, and the Caucasus.

In general habits and nidification not differing from *G. glandarius*, but its nest is as a rule smaller, and its eggs, from 5 to 7 in number, are rather darker.

591. Algerian Black-headed Jay.

GARRULUS CERVICALIS.

Garrulus cervicalis, Bp. Comp. Rend. xxxvii. p. 828 (1853); Dresser, iv. p. 499, pl. 258; Sharpe, Cat. B. Br. Mus. iii. p. 98.

Geai à calotte noir, French; *Mèkierk*, Arab.

ad. (Morocco). Differs from *G. atricapillus* in having the forehead spotted with black, the nape and forepart of the back rich rusty red, and the back pale greyish faintly washed with rufous buff. Culmen 1·3, wing 7·0, tail 6·0, tarsus 1·6 inch.

Hab. North-west Africa.

Affects wooded districts, and in general habits resembles *G. glandarius*, but is said to be less noisy. Its nest is usually

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placed in a high tree, is constructed of twigs interwoven with roots, and lined with fine rootlets, and the eggs 4 to 5 in number resemble those of the *G. glandarius*.

592. JAPANESE JAY.

GARRULUS JAPONICUS.

Garrulus japonicus, Temm. and Schlegel, Faun. Jap. Aves. p. 83, pl. 43 (1850); Sharpe, Cat. B. Br. Mus. iii. p. 95.

Kakesu, Japanese.

ad. (Japan). Differs from *G. glandarius* in being considerably smaller, in having the upper parts darker, the black on the face extending all round the eye, and the crest is white, each feather having a broad black central line. Culmen 1·25, wing 6·3, tail 5·9, tarsus 1·5 inch.

Hab. Japan, south of the straits of Tsugaru.

In its general habits it does not differ from *G. glandarius* and its nest and eggs resemble those of that species. It usually builds on a pine or cryptomeria tree about 15 feet from the ground, and deposits its eggs in May and June. *Garrulus bispecularis* Vigors, which inhabits the Himalayas, probably occurs in Tibet, and its near ally *G. sinensis* Swinhoe, which inhabits China, is said to have occurred once in Japan.

593. LIDTH'S JAY.

GARRULUS LIDTHI.

Garrulus lidthi, Bp. Consp. i. p. 376 (1850); id. P.Z.S. 1850, p. 80, Aves, pl. xvii; Sharpe, Cat. B. Br. Mus. iii. p. 102.

Rufescent vinaceous; entire head, neck, wings, and tail dark azure; forehead and lores blackish; feathers of the throat lanceolate, the barbules lax, the shafts white; wing-coverts barred with black; quills and tail blackish towards the tip and tipped with white; the blue of the head and neck gradually merging into the rufescent vinous of the back and abdomen; bill white, high, much compressed; tail longish, even. Culmen 1·50, wing 7·0, tail 5·50, tarsus 1·8 inch. (Bp).

Hab. Japan.

Nothing is known respecting this Jay beyond that two specimens, said to have come from the interior of Japan, were sent to Europe, but no one has met with it there since.

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CYANOPICA, Bp., 1850.

594. Azure-winged Magpie.

CYANOPICA COOKI.

Cyanopica cooki, P. Z. S. 1850, p. 86; Dresser, iv. p. 503, pl. 259; (Sharpe), Cat. B. Br. Mus. iii. p. 69; (Gould), B. of E. pl. 217.

Rabilongo, Portug.; *Rabilargo, Mohino*, Span.

♂ *ad.* (Spain). Crown, nape, and sides of the head velvety black; back, scapulars, and rump brownish dove-colour, greyer on the upper tail-coverts, wings rich blue, most of the feathers black on the inner web, some white on the terminal half of the outer web; tail much graduated, rich blue, the outer feathers very narrowly tipped with white; under parts white, the flanks and under tail coverts washed with ashy brown; beak and legs black; iris blackish brown. Culmen 1·0, wing 5·3, tail 8·2, tarsus 1·4 inch. Sexes alike.

Hab. Confined to Spain and Portugal.

In general habits this species resembles both the Magpie and Jay, more especially the former. It is not shy and affects gardens and groves more especially where the evergreen oak is plentiful. Its flight resembles that of the Magpie but is softer. Its food consists of insects of various kinds, but it is said also to eat fruit occasionally. Its nest, which is placed on the branch of a tree at no great altitude, is constructed of dry twigs and sticks, interwoven with grass and moss, and lined with grass or wool; the eggs from 5 to 7 in number are usually deposited in May and vary in ground colour from dull greenish white to dull stone-colour or dark buff and are marked with pale purplish brown shell-blotches and dark brown surface-spots. In some the markings are more numerous round the larger end, and in size they average about 1·08 by 0·81.

595. Eastern Blue Magpie.

CYANOPICA CYANA.

Cyanopica cyana (Pall.), Reise, iii. Anhang, p. 694, No. 7 (1776); (id.) Zoogr. Ross. As. i. p. 391, pl. xvi; (David and Oust. Ois.) Chine, p. 374, pl. 84; (Sharpe), Cat. B. Br. Mus. iii. p. 68; (Tacz.) F. O Sib. O. p. 511.

Sinaja - soroka, Ronshé, Russ.; *Idach, Kitak-schædzeghaei*, Mongol.; *Chadarà*, Tungus.; *Gschonmo*, Tangut.; *Onangadori* Jap.

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♂ *ad.* (Japan). Differs from *C. cooki*, in having the upper parts ashy grey, with occasionally a faint tinge of brown, and the tail is broadly tipped with white. The young bird is duller in colour, and has the feathers on the head narrowly tipped with white.

Hab. Eastern Siberia; South-eastern Mongolia; Northern China, Corea, and Japan on the main island, but not on Yezo.

In habits it differs but little from *C. cooki* but is said to be shyer, frequenting the forests, especially near rivers. Its food consists of insects of various kinds, berries, fruit, and seed. Its note is said to resemble the syllables *bjjj, djjin, djjin, djjin* and it is a somewhat noisy bird. Its nest and eggs closely resemble those of *C. cooki*, but the latter are generally darker.

The Chinese Blue Magpie *Urocissa sinensis* (Linn.) is said to occur north of Pekin, and even to stray to south-west Kan-su (Berez. and Bianchi Ptitz. Gan-su, p. 122), but I do not include it as it is not strictly speaking a Palæarctic bird.

PICA, Briss., 1760.

596. Magpie.

PICA RUSTICA.

Pica rustica (Scopoli), Ann. i. Hist. Nat. p. 38 (1769); Newton, ii. p. 312; Dresser, iv. p. 509, pl. 260, fig. 2; Oates, F. Brit. Ind. Birds, i. p. 24; Saunders, p. 237; *Corvus pica*, Linn. Syst. Nat. i. p. 157 (1766); Naum. ii. p. 101, Taf. 56, fig. 2; (Sharpe), Cat. B. Br. Mus. iii. p. 62; *P. hudsonica*, Bp. Comp. List, p. 27 (1838); *P. caudata*, Keys and Blas. Wirbelth. Eur. p. 45 (1840); Hewitson, i. p. 234, pl. lx. fig. 3; Gould, B. of E. iii. pl. 216; Lilford, ii. p. 58, pl. 25; *P. bottanensis*, Deless. Rev. Zool. ii. p. 100; *P. japonica* et *bactriana*, Bp. Consp. i. p. 383; *P. leucoptera*; Gould, B. of Asia, v. pl. 55; Sharpe, Cat. B. Br. Mus. iii. p. 66.

Pie ordinaire, French; *Pega*, Portug.; *Marica, Urraca*, Span.; *Gaza, Cecca*, Ital.; *Elster*, Germ.; *Skade*, Dan.; *Skjære*, Norw.; *Skata*, Swed.; *Harakka*, Finn.; *Soroka*, Russ.; *Acka*, Pers.; *Hizen-karasu*, Jap.

♂ *ad.* (England). Head, neck, back, breast, wings, and tail deep black, glossed with bottle-green and violet-green; rump dull white; primaries white on the basal inner web; scapulars and abdomen white; thighs, anal region, and under tail-coverts black; bill and legs black; iris brown. Culmen 1·4, wing 7·4, tail 10·2, tarsus 1·85 inch. Sexes alike.

Hab. The whole of Europe from the Varanger Fjord to the Mediterranean; Asia from Kamchatka to the Himalayas;

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Tibet, Mongolia, China, and Japan; America from Alaska to Arizona, east to the Missouri river.

In habits the Magpie varies according to circumstances, for in England where it is persecuted, it is extremely shy and wary, but elsewhere, where not molested, it is tame and confiding. It feeds on small mammals, carrion, and any animal food, eggs, young birds, insects, worms, fish (on the coasts), and even on fruit. Its note is a harsh chatter, somewhat modulated during the breeding season. Its flight is laboured and weak and it seldom flies far before seeking shelter. Its nest which is a bulky domed structure of sticks and turf worked together in the foundation with clay or earth, and the cup lined with fine roots or grass, is placed on a tree or hedge, sometimes in a low bush. The eggs, 6 to 8 or even 9 in number, are laid early in the season, and are pale bluish white closely spotted with brown or greenish brown, sometimes yellowish brown spotted with olive, and in size average about 1·48 by 0·94.

Specimens from Turkestan and Tibet (*P. leucoptera*) have more white on the quills, and those from Kamchatka (*P. camtschatica*. Stejn) are even whiter, others from Sikhim and Bhutan (*P. bottanensis*) are said to have the rump entirely black and have accordingly been separated specifically from *P. rustica* by some authors, but these differences are not constant. In Western N. America *P. nuttalli*, Aud. occurs, which has the beak and bare orbital skin bright yellow.

597. Moorish Magpie.

PICA MAURITANICA.

Pica mauritanica, Malh. Mém de la Soc. d'Hist. Nat. de Metz, p. 7 (1843); Levaill. jr. Expl. Scient. d'Algér. Atl. Ois. pl. 8; Dresser, iv. p. 519, pl. 260, fig. 1; Sharpe, Cat. B. Br. Mus. iii. p. 66; Koenig J.f.O. 1895, Taf. vi. figs. 4*a*, *b* (eggs).

L'Agaag, Arabic.

♂ *ad.* (Algeria). Differs from *P. rustica* in having a conspicuous bare, bright cobalt blue spot behind the eye, the rump black, not white; the black on the breast extends further down, and the head and back are more glossed with green. Culmen 1·45, wing 6·2, tail 10·7, tarsus 1·75 inch.

Hab. N.W. Africa (Algeria, Morocco, Tunisia, &c.)

In habits it does not differ from *P. rustica*, and its nest and eggs closely resemble those of that species. The eggs are usually deposited in May. This species is especially victimized by *Coccystes glandarius*.

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CORVUS, Linn., 1766.

598. Daurian Jackdaw.

CORVUS DAUURICUS.

Corvus dauuricus, Pall. Reise, &c. iii. Anhang, p. 694 (1776); id. Zoogr R. As. i. p. 387, tab. xv.; (Temm. and Schlegel), Faun. Jap. Aves p. 80, pl. 41; (David and Oust.), Ois. Chine, p. 370; (Sharpe), Cat. B. Br. Mus. iii. p. 28; (Tacz.), F. O. Sib. O. p. 521.

Peggoja-Galka, Russ.; *Alaktu*, Burat.; *Tontro*, Tungus. *Kokumaro-garasu*, Jap.

♂ *ad.* (E. Siberia). Nape, hind-neck, sides of the neck, lower throat and abdomen white; rest of the plumage deep black, glossed with purple and green; the ear-coverts streaked with greyish white; bill and legs black; iris brownish grey. Culmen 1·2, wing 9·2, tail 5·1, tarsus 1·7 inch. The female is rather duller in colour, and the young have the black portions of the plumage much duller, and have the white portions tinged with dull grey.

Hab. Siberia, from Irkutsk and the Altai east to the Pacific; Northern China, Corea, Mongolia, Manchuria, and Japan.

In habits it does not differ from the European Jackdaw. It nests in the rocks, in hollow trees, and even in the forks of the branches, and its eggs resemble those of *C. monedula*.

599. Jackdaw.

CORVUS MONEDULA.

Corvus monedula, Linn. Syst. Nat. i. p. 156 (1766); Naum. ii. p. 93, Taf. 56, fig. 1; Hewitson, i. p. 232, pl. lx. fig. 2; Gould, B. of E. iii. p. 133; id. B. of Gt. Brit. iii. pl. 61; Newton, ii. p. 305; Dresser, iv. p. 523, pl. 261; (Sharpe), Cat. B. Br. Mus. iii. p. 26; Oates, F. Brit. Ind. Birds, i. p. 22; Saunders, p. 239; Lilford, ii. p. 54, pl. 23; *C. collaris*, Drummond, Ann. and Mag. Nat. Hist. xviii. p. 11 (1846); (Sharpe), Cat. B. Br. Mus. iii. p. 27.

Choucas gris, French; *Cuneta*, Portug.; *Graja*, Span.; *Taccola*, Ital.; *Dohle*, Germ.; *Kerkkaauw*, Dutch; *Kaa*, Dan.; *Kaje*, Norw.; *Kaja*, Swed.; *Naaka*, Finn.; *Galka*, Russ.

♂ *ad.* (Sweden). General colour deep black, the wings and tail glossed with purple; back and rump slightly tinged with greyish; under parts

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tinged with slate-grey; nape, hind-neck, and sides of the neck white, with a greyish tinge; bill and legs black; iris nearly white. Culmen 1·3, wing 9·0, tail 5·2, tarsus 1·9 inch. The female has the neck greyer and darker, and the young are duller in colour, the under parts greyer, and the grey on the neck much darker and duller.

Hab. The whole of Europe up to 63° or 64° N. Lat.; ranging into Western Siberia, Afghanistan, Kashmir, N.W. Punjab, and even to Tibet; North Africa; a straggler to the Canaries.

In habits the Jackdaw is lively, noisy, and cheerful, essentially gregarious, being almost always to be met with in companies or associating with Rooks. Where unmolested it is extremely tame, but where there is any sign of danger it is wary enough. Its flight is wavering and rapid, and it often performs evolutions in the air. Its note is a clear short *chock*, and when many are calling at the same time it is not unpleasing. Its food consists of larvæ and insects of various kinds, worms, shell-fish, crustaceans, and to some extent also of grain, and it is said also to steal the young and eggs of other birds. Its nest, which is placed in an old ruin, the hollow of a tree, a hole in a cliff, and even in a rabbit burrow, is a careless structure of sticks, straw, feathers, wool, &c., and the eggs 4 to 7 in number are usually laid in May, and vary from greenish white to pale bluish green in ground colour, more or less spotted and blotched with pale purplish, or purplish brown blotches, and light or dark brown surface-markings; in size averaging 1·36 by 1·01. Specimens from Eastern Europe and Asia (*C. collaris*) have as a rule the nuchal collar less tinged with grey and sometimes almost pure white, but this is not constant.

600. Subsp. Corvus neglectus.

Corvus neglectus, Schlegel, Bijd. Dierk, Amsterdam, Afl. viii. p. 16 (1859); Swinhoe, Ibis, 1863, p. 259; (Sharpe), Cat. B. Br. Mus. iii. p. 28; (David and Oust.), Ois. Chine, p. 370; (Tacz.) F. O. Sib. O. p. 524.

ad. Differs from *C. monedula* in having only a very indistinct collar of dull silvery grey, and the under parts dingy blackish grey, becoming black on the thighs and under tail-coverts. Culmen 1·35, wing 9·1, tail 5·2, tarsus 1·9 inch.

Hab. Northern China, Mongolia, and Japan.

In habits this species does not differ from *C. monedula* of which it is the eastern representative.

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601. Black Crow.

CORVUS CORONE.

Corvus corone, Linn. Syst. Nat. i. p. 155 (1766); Naum. ii. p. 54, Taf. 53, fig. 2; Hewitson, i. p. 222, pl. lviii. fig. 1; Gould, B. of E. iii. pl. 221; id. B. of Gt. Brit. iii. pl. 58; Newton, ii. p. 274; Dresser, iv. p. 531, pl. 262, fig. 2, 263, fig. 1; (Sharpe), Cat. B. Br. Mus. iii. p. 36; Tacz. F. O. Sib. O. p. 533; Oates, F. Brit. Ind. Birds, i. p. 16; Saunders, p. 243; Lilford, ii. p. 46, pl. 20.

Corneille noire, French; *Gralha*, Portug.; *Corneja negra*, Span.; *Cornecchia nera*, Ital.; *Schwarze Krähe*, Germ.; *Kraai*, Dutch; *Sort Krage*, Dan.; *Chernaya Vorona*, Russ.; *Hashiboso-garasu*, Jap.

♂ *ad.* (Scotland). Jet black, on the upper parts chiefly glossed with purple, the wings and tail with greenish purple; tail slightly rounded; bill and legs black; iris brown. Culmen 2·3, wing 12·8, tail 7·10, tarsus 2·30 inch. Sexes alike.

Hab. Europe, from Great Britain and Denmark to the Mediterranean, but chiefly in the west, becoming rarer east of the Elbe; of rare occurrence in Sweden: Asia, sparingly to the Yenesei, east of which it (*C. orientalis*, Eversm.) is the prevalent form; north to Kamchatka, south to Mongolia, North China, and Japan (*C. japonensis*, Bp.), where it is common, south-west to eastern Turkestan and Kashmir.

In habits it is cautious and wary, and except where there is a carcass or where food is plentiful it is usually seen in pairs or alone. Its flight is direct and performed by regular flaps of its fully extended wings, and its note is a tolerably loud, clear, croak. It is an omnivorous feeder, but flesh or fish forms its staple food; carrion, fish that has been cast up on the shore shell-fish, young birds, eggs, new born or weakly lambs all come equally welcome, and when driven by hunger it is said even to eat berries. Its nest, which is placed on a tree or rock, is bulky, constructed of sticks and twigs worked together with mould, and well lined with moss, hair, wool, and feathers; the eggs, 4 to 6 in number, are usually deposited in April or early in May, and are pale bluish green, sometimes tinged with olive, spotted and blotched with purplish grey shell-markings and lighter or darker brown surface-blotches; in size measuring about 1·72 by 1·09.

602. Grey Crow.

CORVUS CORNIX.

Corvus cornix, Linn. Syst. Nat. i. p. 156 (1766); Naum. ii. p. 65, Taf. 54; Hewitson, i. p. 224, pl. lviii. fig. 2; Gould, iii. pl. 22; id. B. of Gt. Brit. iii. pl. 59; Newton, ii. p. 275; Dresser, iv. p. 543, pl. 263

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fig. 2; (Sharpe), Cat. B. Br. Mus. iii. p. 31; Tacz. F. O. Sib. O. p. 533; Oates, F. Brit. Ind. Birds, i. p. 19; Saunders, p. 245; Lilford, ii. p. 47, pl. 21; *C. capellanus*, Sclater, P.Z.S. 1876, p. 694, pl. lxvi; (Sharpe), op. cit. iii. p. 32; *C. sharpii*; Oates, tom. cit. p. 20 (1889).

Corneille mantelée, French; *Corronca, Cornacchia*, Ital.; *Nebelkrähe, Mantelkrähe*, Germ.; *Graa-Krage*, Dan.; *Kraake*, Norweg.; *Grå Kråka*, Swed.; *Vuoras*, Lapp.; *Vares*, Finn.; *Saraya-Vorona*, Russ.

♂ *ad.* (Denmark). Head, central throat, and upper breast, wings and tail deep black, glossed with blue and violet; hind-neck, sides of neck, back, and under parts ashy grey, the feathers with dark shafts; thighs blackish; bill and legs black; iris dark brown. Culmen 2·2, wing 12·6, tail 7·8, tarsus 2·4 inch. Sexes alike.

Hab. Europe, chiefly in the north and east; Ireland generally; the northern portion of Great Britain; a straggler to Iceland, but common in the Færoes; Scandinavia, north to Lapland; east of the Elbe it is the prevalent form; south-eastern Europe, Asia Minor, Palestine, and Egypt; Asia, east to the Yenesei, then very rare, south to Afghanistan and Turkestan (*C. sharpii*), the Persian Gulf and Mesopotamia (*C. capellanus*).

In habits, note, and nidification this species does not differ from *C. corone*, and in a series its eggs are also undistinguishable. In localities where the two species occur they interbreed not unfrequently and partly for that reason Prof. Newton unites the two species. On the other hand Dr. Sclater and Dr. Sharpe separate the Persian form (*C. capellanus*) as having the grey portions of the plumage nearly white, and Mr. Oates recognizes three species, viz. *C. cornix* having the pale portions of the plumage ashy grey, *C. capellanus* as having these parts nearly white, and *C. sharpii*, which inhabits Siberia, Turkestan, Afghanistan, and a portion of India as having these parts drab-grey.

603. Jungle Crow.

CORVUS MACRORHYNCHUS.

Corvus macrorhynchus, Wagler, Syst. Av. *Corvus* sp. 3 (1827); Temm. and Schlegel, Faun. Jap. Aves, p. 79, pl. 39; (Sharpe), Cat. B. Br. Mus. iii. p. 38; Oates, F. Brit. Ind. Birds, i. p. 17; *C. levaillantii* Less. Traité d'Orn. p. 328 (1831); (Sharpe), tom. cit. p. 39; *C. culminatus*, Sykes, P.Z.S. 1832, p. 96; Sharpe, tom. cit. p. 20; *C. japonensis*, Bp. Consp. i. p. 386 (1850); (Sharpe), tom. cit. p. 41; *C. sinensis*, Horsf. and Moore, Cat. B. Mus. E. Ind. Co. ii. p. 556 (1856-58); David and Oust. Ois. Chine, p. 367; Tacz. F. O. Sib. O. p. 530.

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Karrial, Hind.; *Dad-kag*, Beng.; *Kaki*, Tel.; *Kaka*, Tam.; *Ulak-pho*, Lepch.; *Ulak*, Bhut.; *Goyegamma-Kaka*, Ceyl.; *Hashibuto-garasu*, Jap.

ad. (India). Entire plumage deep black, glossed with purple and green; feathers on the sides and back of neck disintegrated and nearly glossless; feathers on the throat only lanceolate; bill very stout; legs and bill black; iris dark brown. Culmen 2·4, wing 12·5, tail 8·2, tarsus 2·2 inch. Sexes alike.

Hab. Eastern Siberia, Japan, Corea, China, India, and the islands of S.E. Asia.

In habits it closely resembles *C. corone*, but in India it not only frequents the jungles, but also towns and villages. It breeds in January and February, making a nest like that of *C. corone* and deposits 4 or 5 eggs, greenish in colour marked with brown and measuring about 1·7 by 1·2.

604. Raven.

CORVUS CORAX.

Corvus corax, Linn. Syst. Nat. i. p. 155 (1766); Naum. ii. p. 43, Taf. 53, fig. 1.; Hewitson, i. p. 220, pl. lvii.; Gould, B. of E. iii. pl. 220; id. B. of Gt. Brit. iii. pl. 57; Newton, ii. p. 259; Dresser, iv. p. 567, pl. 262, fig. 3, 265, fig. 1; Audub. B. Am. pl. 224; David and Oust. Ois. Chine, p. 266; Sharpe. Cat. B. Br. Mus. iii. p. 14; Oates, F. Brit. Ind. Birds, i. p. 14; Saunders, p. 241; Lilford, ii. p. 44, pl. 19; Tacz. F. O. Sib. O. pp. 525–529; Ridgway, p. 361; *C. carnivorus*, Bartr. Trav. E. Flor. p. 290 (1793); Baird, B. N. Am. p. 560, pl. xxi.; *C. leucophæus*, Vieill. Nouv. Dict. viii. p. 27 (1817); *C. tibetanus*, Hodgs. Ann. and Mag. Nat. Hist. 2nd ser. iii. p. 263 (1849).

Corbeau, French; *Corvo*, Portug.; *Cuervo*, Span.; *Corvo imperiale*, Ital.; *Kolkrabe*, Germ.; *Raaf*, Dutch; *Hrafn*, Icel.; *Ravn*, Dan. and Norweg.; *Korp*, Swed.; *Korppi*, Finn.: *Voron*, Russ.; *Kargh*, Candahar; *Domkak*, *Doda*, Hind.; *Watari-garasu*, Jap.

♂ *ad.* (Sweden) Deep black, richly glossed, especially on the upper parts with steel-blue and purple; feathers on the throat lanceolate, elongated, richly glossed with purple; tail almost wedge-shaped; bill and legs shining black; iris brown. Culmen 3·7, height of the bill at base 1·1, wing 16·2, tail 10·1, tarsus 2·65 inch. The female is similar, but usually rather smaller and slightly duller, and the young bird is much duller, and has the throat-feathers loose in texture, and not lanceolate.

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Hab. The whole of Europe; Northern and Central Asia, south to the Punjab, and Tibet; North America south to Mexico.

As a rule it is extremely wary and cautious, though where it is not molested it is comparatively tame. It affects rocky localities and open country in preference to the woodland. Its flight is bold and strong and in the spring it may be seen performing aerial evolutions. Like its congeners it is omnivorous, but feeds chiefly on carrion, fish thrown up on the shores, small mammals, grubs, worms, and even grain, when more suitable food is absent. Its note is a deep hoarse croak, which in the spring is often modulated into a gulping and more musical sound; it is also an excellent mimic. It breeds early in the year, placing its nest, which is bulky and constructed of sticks, roots, &c., lined with wool, down, or any soft material, on a tree or rock, and in February or March deposits 4 to 6, sometimes even 8 eggs, which are pale greenish blue or dull olive-greenish marked with faint blackish shell-markings, and blackish or blackish brown surface-blotches, which are generally scattered over the surface of the shell; in size they average about 1·82 by 1·30, but they vary a good deal both in size and markings. Taczanowski recognises several subspecies of the Raven (F.O.Sib.O. pp. 526–529): viz. *Corvus corax sibiricus* from Eastern Siberia, *C. c. ussurianus* from Manchuria, *C. c. kamtschaticus* from Kamchatka, and *C. c. behringianus* from the Commander Islands, but I prefer to unite all these with *C. corax*.

605. Brown-necked Raven.

CORVUS UMBRINUS.

Corvus umbrinus, Sundevall, K. Vet. Ak. Handl. 1838, p. 199 (ex-Hedenborg, MS.); Shelley, B. of Egypt, p. 158; Dresser, iv. p. 577, pl. 262, fig. 1, 265, fig. 2; Sharpe, Cat. B. Br. Mus. iii. p. 17; Oates, F. Brit. Ind. Birds, i. p. 15.

Ghurab el nohi, Arabic.

ad. (Egypt). Head and neck glossy dark umber-brown; feathers on the neck white at the base; upper and under parts deep black, glossed with steely or violet blue, the under parts with a few dark umber-brown feathers; bill and legs black, the latter with a brownish tinge; iris dark brown. Culmen 2·9, wing 15·5, tail 8·6, tarsus 2·9, middle toe 2·2 inch. Sexes alike.

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Hab. Egypt and Palestine, east to Afghanistan, Sind, and Mekrán.

Frequents desert and rocky localities and is said to be tolerably tame, frequenting villages and slaughter-houses in search of offal. In general habits it resembles *C. corax* and like that species feeds on carrion, grubs, insects, and also on dates and grain. It places its nest on rocks or trees, constructing same of sticks, roots, &c., lined with rootlets, wool, or hair, and in February or March deposits 4 to 6 eggs, like those of *C. corax* but richer in colour, and measuring about 1·92 by 1·26.

606 IRBY'S RAVEN.

CORVUS LEPTONYX.

Corvus leptonyx, Peale, U.S. Expl. Exp. viii. p. 105 (1848); Sharpe, Cat. B. Br. Mus. iii. p. 19; *C. tingitanus*, Irby, Ibis, 1874, p. 264; Dresser, iv. p. 563, pl. 262, figs. 4–6.

l'Hŏráhb, Arabic.

ad. (Morocco). Resembles *C. corax*, but is smaller, the lanceolate feathers extend only over the upper neck, are smaller, and to some extent bifurcate; bill short and stout; wing short; entire plumage deep black, glossed with steel blue; upper surface of wings tinged with brown. Culmen 2·5, height of bill at base 1·0, wing 13·8, tail 7·75, tarsus 2·5 inch.

Hab. North-west Africa, Canary Islands, and Madeira.

Frequents the low flat country and in general habits resembles *C. corax*, but unless persecuted it is tame and confiding, visiting refuse heaps near the towns and villages in search of food. It places its nest, which is built of sticks, and lined with grass and rootlets, on trees or rocks, and is said sometimes to nest in communities. The eggs, 4 to 7 in number, are laid in April or May, and resemble those of *C. corone*, but are generally brighter in colour and measure about 1·69 by 1·24.

607. FANTAIL RAVEN.

CORVUS AFFINIS.

Corvus affinis, Rüpp. Neue Wirbelth. p. 20, Taf. 10, fig. 2; Heugl. Orn. N. O. Afr. p. 504; Dresser, iv. p. 559, pl. 262, figs. 5–7; (Sharpe), Cat. B. Br. Mus. iii. p. 46.

♂ *ad.* (Palestine). Glossy black, glossed with steely violet or steel-blue, especially on the upper parts; head and neck duller, the throat shaded with brown, the feathers lanceolate, bifurcate at the tip; nasal

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bristles very stiff and directed upwards and forwards; wings very long, the secondaries long; beak and legs black; iris brown. Culmen, 2·5, width of lower mandible at base nearly 2, wing 14·5, tail 6·4, tarsus 2·4 inch. Sexes alike.

Hab. N.E. Africa and Palestine.

Frequents rocky and desolate localities, and in general habits resembles its congeners. It is generally seen in pairs and visits villages and camps in search of offal. Its note is a raven-like *kuck* and a somewhat chattering *kua, kua*. Its flight is peculiar, as it rather sails than flies, the motion of the wings being scarcely perceptible. Respecting its nidification I find nothing on record.

608. Rook.

CORVUS FRUGILEGUS.

Corvus frugilegus, Linn. Syst. Nat. i. p. 156 (1766); Naum. ii. p. 78, Taf. 55; Hewitson, i. p. 226, pl. lix; Gould, B. of E. iii. pl. 224; id. B. of Gt. Brit. iii. pl. 60; Newton, ii. p. 289; Dresser, iv. p. 551, pl. 264; Sharpe, Cat. B. Br. Mus. iii. p. 9; Oates, F. Brit. Ind. Birds, i. p. 18; Saunders, p. 247; Lilford, ii. p. 49, pl. 22.

Corbeau-Freux, French; *Gralha*, Portug.; *Corneja calva, Chaya*, Span.; *Corvo, Corvo-nero*, Ital.; *Saatkrähe*, Germ.; *Roek*, Dutch; *Kornkrage*, Dan.; *Blaakraake*, Norw.; *Raka*, Swed.; *Picni-Korppi*, Finn.; *Grach*, Russ.

♂ *ad.* (England). Deep black, the head, neck, and under parts glossed with bluish purple, the upper parts with violet-purple; base of the bill, space round the eye and chin denuded of feathers; bill and legs black; iris blackish brown. Culmen 2·35, wing 12·75, tail 6·6, tarsus 2·15 inch. Sexes alike. The young bird is duller in colour, and has the base of the bill scantily covered with loose feathers.

Hab. The whole of Europe from about 60° N. Lat. in summer, down to the Mediterranean in winter; Northern Africa; Asia as far east as Kashmir and the Punjab.

Essentially gregarious in its habits, the Rook is always seen in large or small flocks and frequents the fields where it follows the plough to pick up worms and insects which have been exposed. It also feeds on shell-fish and fish that have been cast up on the seashore, acorns, beechnuts and fruit, and it is particularly fond of walnuts; grain it also eats and will feed on carrion. The note is a somewhat harsh caw subject to considerable modulation especially during the pairing season.

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Rooks nest in colonies, often of large size, placing their nests on tolerably high trees, and usually commence nidification in March. The nest is bulky, constructed of sticks and lined with fine roots, wool, straw, &c., and the eggs, 4 to 5 or 6 in number, resemble those of the Carrion Crow, but are as a rule somewhat smaller, averaging about 1·52 by 1·12, and are subject to considerable variation in colour and markings.

609. Eastern Rook.

CORVUS PASTINATOR.

Corvus pastinator, Gould, P.Z.S. 1845, p. 1 ; (David and Oust.), p. 369 ; (Sharpe), Cat. B. Br. Mus. iii. p. 10 ; (Tacz.), F. O. Sib. O. p. 537.

ad. (Japan). Differs from *C. frugilegus* in having the head and neck glossed with purple and not with green, and in having only the space from the base of the bill to the eye, and a small patch at the base of the lower mandible bare. Culmen 1·85, wing 11·75, tail 7·2, tarsus 2·05 inch.

Hab. Eastern Siberia, Kan-su, Mongolia, Corea, China, and Japan.

In habits and nidification it does not differ from *C. frugilegus*.

CYPSELUS, Illig., 1811.

610. Swift.

CYPSELUS APUS.

Cypselus apus, (Linn.), Syst. Nat. i. p. 344 (1766) ; Naum. vi. p. 123, Taf. 147, fig. 2 ; Hewitson, i. p. 267, pl. lxv. fig. 5 ; Gould, B. of Gt. Brit. ii. pl. 3 ; Newton, ii. p. 364 ; Dresser, iv. p. 58, pl. 266 ; (Hartert), Cat. B. Br. Mus. xvi. p. 442 ; Blanf. F. Brit. Ind. Birds, iii. p. 165 ; Saunders, p. 261 ; Lilford, ii. p. 38, pl. 16 ; *C. murarius* (Meyer), Vög. Livl, &c. p. 143 (1815) ; Gould, B. of E. ii. p. 53.

Martinet de muraille, French ; *Andorinhão*, Portug. ; *Avion*, *Falsia*, Span. ; *Rondone*, Ital ; *Thurmsegler*, *Mauersegler*, Germ. ; *Gierzwaluw*, Dutch ; *Muur-svale*, Dan. ; *Taarnsvale*, Norw. ; *Tornsvala*, Swed. ; *Nahkasiipi*, *Luniapääsky*, *Tervapääsky*, Finn. ; *Streshbaschinnoi*, Russ.

ad. (Sweden), Blackish brown, with a faint greenish gloss ; chin dull white, with obsolete dark stripes ; bill and feet blackish ; iris dark brown. Bill from gape 0·65, wing 6·5, tail 3·15, tarsus 0·55 inch. Sexes alike. The young bird has the throat whiter, and most of the feathers are margined with dull white.

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Hab. The whole of Europe, north to 69°, in winter migrating down to S. Africa and Madagascar; Asia as far east as Central Asia, Afghanistan, and Kashmir. Essentially a bird of the air it is really only at home when on the wing, and on the ground is very helpless.

It frequents old towns, ruins, steeples, and rocks, and its note is a loud, harsh, prolonged screech or scream. It feeds entirely on insects of various kinds, chiefly hymenoptera and diptera, which it captures on the wing. Its flight is extremely rapid, and is performed by quick flaps of its long wings, and long glidings with the wings extended and seemingly motionless. It breeds in a cranny in a cliff, an old building, or a hollow tree, constructing a somewhat rude cup-shaped nest of straws intermixed with small rootlets, feathers, moss, hair, or wool glued together by a viscid mucous secretion which forms abundantly in the gape of the bird. The eggs, 2 to 4 in number, are usually deposited in June, and are pure white, glossless, and elongated in shape, measuring about 1·02 by 0·67.

611. Subsp. Cypselus pekinensis.

Cypselus pekinensis, Swinhoe, P.Z.S. 1870, p. 435; David and Oust. Ois. Chine, p. 68; (Hartert) Cat. B. Br. Mus. xvi. p. 444.

ad. (Siberia). Differs from *C. apus* only in being rather paler on the upper parts, especially on the forehead, and to some extent also on the tail.

Hab. E. Siberia, Mongolia, eastern Central Asia, and China.

Does not differ from *C. apus* in habits or nidification except that it nests in hollow trees as often as in rocks or buildings, whereas *C. apus* seldom builds in hollow trees; and its note is said to be softer.

612. Pallid Swift.

CYPSELUS MURINUS.

Cypselus murinus, Brehm, Vogelfang, p. 46 (1855); (Hartert) Cat. B. Br. Mus. xvi. p. 446; *C. pallidus*, Shelley, Ibis, 1870, p. 445; Dresser, iv. p. 597, pl. 268.

Andorinho Africana, Portug.; *Avion*, Span.

ad. (Spain). Differs from *C. apus* in being dull soft mouse grey in colour, rather paler on the forehead, and darker on the wings and tail; chin and upper throat whitish grey; a black spot in front of the eye; bill black; feet purplish brown; iris brown. Culmen 0·3, gape 0·65, wing 6·4, tail 2·7, tarsus 0·45 inch.

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Hab. Madeira and Canaries; southern Spain, and some of the Mediterranean Islands; north Africa, east to the Persian Gulf and Sind; in winter as far south as Damaraland.

Does not differ from *C. apus* in habits or nidification.

613. Madeiran Swift.

CYPSELUS UNICOLOR.

Cypselus unicolor, Jardine, Edinb. Journ. Nat. and Geogr. Sc. i. p. 242, pl. vi. (1830); Dresser, iv. p. 601, pl. 868; (Hartert), Cat. B. Br. Mus. xvi. p. 448

Andorhina da terra, in Madeira.

ad. (Madeira). Differs from *C. apus* in being smaller, having the tail more deeply forked, the chin and throat barely paler than the rest of the under parts, and the latter part slightly barred with dull brownish white. Gape 0·6, wing 5·8, tail 3·1, the outermost feathers 1·05, longer than the middle ones, tarsus 0·4 inch.

Hab. Madeira and the Canary Islands; a straggler to the Cape Verde Islands.

In general habits it closely resembles *C. apus*.

614. White-rumped Swift.

CYPSELUS AFFINIS.

Cypselus affinis, Gray and Hardw. Ill. Ind. Zool. i. pl. 35, fig. 2 (1832); Dresser, iv. p. 591, pl. 267; (Hartert), Cat. B. Br. Mus. xvi. p. 453; Blanf. F. Brit. Ind. Birds, iii. p. 168; *C. abyssinicus*, Streubel, Ibis, 1848, p. 354; *C. galilejensis*, Antinori Naumannia, 1855, v. p. 307; *C. caffer* (Boie), Isis, 1844, p. 165, partim.

Ababil, Babila, Hind.; *Pákoli*, Mahr.; *Wœhœtaniya*, Cing.

ad. (Palestine). Head and neck mouse-brown, paler on the forehead; back black, glossed with purple; wings, tail, and tail-coverts dark brown, the first quill and the coverts narrowly margined with white; rump, chin, and throat white; under parts blackish brown, glossed with purple; bill and feet black; iris dark brown. Culmen 0·28, gape 0·6, wing 5·05, tail 1·64, tarsus 0·32 inch. Sexes alike.

Hab. North-east Africa and west Africa, except Algeria and north of the Atlas range; south Africa to the Cape; Palestine and Persia east to India and Ceylon. East of the Bay of Bengal it is replaced by *C. subfurcatus* Blyth which is darker on the head, upper tail-coverts and tail, the last being longer and more furcated.

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In general habits it differs but little from *C. apus*, but is as a rule a resident and not a migrant; its flight is rather less powerful, and its note is even shriller than that species. Like it *C. affinis* feeds on insects which it captures on the wing. It is gregarious and breeds in companies, placing its nest, which is like that of *C. apus*, in cliff-crannies, houses, and old buildings, depositing from February to August 2 to 4 white glossless eggs which in size average about 0·87 by 0·57. The bird from Tunis has been described by Dr. Reichenow as distinct (*Micropus koenigi* Reichen., Orn. Monatsb., 1894 p. 192) but, it appears to me, without valid reason.

615. Siberian Swift.

CYPSELUS PACIFICUS.

Cypselus pacificus (Latham), Ind. Orn. Suppl. p. lviii. (1801); Oates B. of Burma, ii. p. 1; Seebohm, B. Jap. Emp. p. 177; (Hartert), Cat. B. Br. Mus. xvi. p. 448; Tacz. F. O. Sib. O. p. 168; Blanf. F. Brit. Ind. Birds, iii. p. 167; *C. australis*, Gould, P.Z.S. 1839, p. 141; id. B. of Austral. ii. pl. 11; Diggles, B. of Austral. p. 20, pl. 20; *C. vittatus*, Jard. and Selby, Ill. Orn. iv. pl. 39 (1843).

ad. (E. Siberia). Upper parts blackish brown; across the rump a broad white band, the feathers with dark brown shafts; chin and throat whitish, the feathers with dark shafts; rest of the under parts brown, the feathers with white margins and subterminal blackish bands; bill black; feet purplish black; iris deep brown. Wing 7·0, outer tail feathers 3·2, the middle ones 1·95; tarsus 0·45 inch. Sexes alike. The young birds have the feathers on the upper parts with pale margins.

Hab. Eastern Siberia, north to Kamchatka; Assam, Cachar, and Manipur, throughout the Burmese countries; Mongolia, China, Corea, Japan; in winter, south to Australia.

In general habits it resembles *C. apus*, but its note is said to be softer and less loud, and it is less noisy than that species. Its nest and eggs are also similar, but it appears to breed nearly always, if not always, in crannies in the rocks, usually in the mountains.

616. Alpine Swift.

CYPSELUS MELBA.

Cypselus melba (Linn.), Syst. Nat. i. p. 345 (1766); Naum. vi. p. 115, Taf. 147, fig. 1; Hewitson, i. p. 269, pl. lxv. fig. 6; Gould, B. of E. ii. pl. 35, fig. 2; id. B. of Gt. Brit. ii. pl. 4; Newton, ii. p. 372; Dresser, iv. p. 603, pl. 269; (Hartert). Cat. B. Br. Mus. xvi. p. 438; Blanf. F. Brit. Ind. Birds, iii. p. 164; Saunders, p. 265; Lilford, ii. p. 40, pl. 17; *C. alpinus* (Scopoli), Ann. i. Hist. Nat. p. 166 (1769).

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Martinet à ventre blanc, French; *Andorinhão gaivão*, Portug.; *Avion*, Span.; *Rondone de mare*, Ital.; *Alpensegler*, Germ.; *Stresh-belobrukey* Russ.

♂ *ad.* (Switzerland). Upper parts, with sides of the head and neck, flanks, under wing- and tail-coverts, and a band across the breast brown, the back lighter and with a faint metallic gloss, the under wing-coverts with narrow terminal margins; chin, throat, lower breast, and abdomen white; bill blackish; feet dull yellowish brown; iris dark brown; tarsus covered in front with brown feathers. Gape 1·0, wing 8·7, tail 3·8, tarsus 0·6 inch. Sexes alike. The young bird is greyer and darker, and the brown feathers are margined with white.

Hab. South Europe, north to the Alps, of rare occurrence in northern France, England, Germany, and Heligoland; north Africa; Asia as far east as Darjiling and Assam, and south to Ceylon; in South Africa it is replaced by a closely allied species *C. africanus*, Temm.

This, the largest of our Swifts, is, like its allies, essentially a bird of the air, and seldom perches, being unable to raise itself from the level ground if it falls. It is gregarious and obtains its food, which consists of small winged insects, when on the wing. Its note is a loud harsh scream, frequently uttered. It breeds in communities, placing its nest, which is constructed of straws, grass-bents, leaves, and feathers worked together with the viscous spittle which the bird secretes, in an old building or a suitable cranny in the rocks. The eggs are pure white, without gloss, 3 to 4 in number, are usually deposited in May or June, and measure about 1·21 by 0·75.

ACANTHYLLIS, Boie., 1826.

617. Needle-tailed Swift.

ACANTHYLLIS CAUDACUTA.

Acanthyllis caudacuta (Lath.), Ind. Orn. Suppl. p. lvii. (1801); Gould, B. of Austral. ii. pl. x.; Newton P.Z.S. 1880, p. 1; Dresser, iv. p. 613, pl. 270; (Hartert), Cat. B. Br. Mus. xvi. p. 472; Tacz. F. O. Sib. O. p. 170; Saunders, p. 265; Lilford, ii. p. 42, pl. 18.

Ama-tsubame, Jap.

ad. (Siberia). Crown, sides of head, and nape black, glossed with green; forehead white; back and rump brown, fading to whity brown on the middle of the back; wings, upper tail-coverts, and tail black, glossed with bottle green, the inner secondaries white on the inner web; terminal shafts of tail-feathers naked, spinous and pointed; chin, throat, vent, and

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under tail-coverts white; rest of under parts sooty brown, but flanks white, mixed with glossy blue-black; bill black; legs livid purplish; iris brown. Gape 0·75, wing 1·0, tail 2·4, tarsus 0·7 inch. Sexes alike.

Hab. Eastern Asia, as far west as Irkutsk, and north as Jakutsk; Mongolia, Manchuria, China, and Japan; Australia and Tasmania in winter; has been twice obtained in England, but nowhere else in Europe.

As a rule it is a gregarious species being usually seen in flocks, and nests in communities. Like the true Swift it is always to be seen on the wing, and is the swiftest of all the family. Unlike the Swift its note is weak and more like that of the Swallow. Its food consists of insects which it captures on the wing. It breeds in holes in rocks and cliffs and in hollow trees. I have not seen a nest, which probably resembles that of *C. melba*, but have two eggs, obtained in Manchuria which are pure white, in grain of shell like those of *Cypselus melba*, and measure 1·22 by 0·78 and 1·24 by 0·76 respectively.

CAPRIMULGUS, Briss., 1760.

618. European Nightjar.

CAPRIMULGUS EUROPÆUS.

Caprimulgus europæus, Linn. Syst. Nat. i. p. 346 (1766); Hewitson, i. p. 270, pl. lxvi.; Naum. vi. p. 141, Taf. 148; Gould, B. of E. ii. pl. 51; id. B. of Gt. Brit. ii. pl. 1; Newton, ii. p. 377; Dresser, iv. p. 621, pl. 271; Hartert, Cat. B. Br. Mus. xvi. p. 526; Blanf. F. Brit. Ind. Birds, iii. p. 187; Saunders, p. 267; Lilford, ii. p. 29. pl. 13; *C. smithii*, Bp. Consp. i. p. 59 (1850); *C. unwini*, Hume, Ibis, 1871, p. 406; Hartert, Cat. B. Br. Mus. xvi. p. 528; *C. plumipes*, Prjev. Mongol. i Strana Tangut. ii. p. 22 (1876), Hartert, tom. cit. p. 530.

Engoulevent ordinaire, French; *Noitibo*, Portug.; *Papavientos*, Span.; *Nottolone*, Ital.; *Ziegenmelker*, *Tagschläfer*, German; *Geitenmelker*, Dutch; *Natteraon*, Dan. and Norweg.; *Nattskärra*, Swed.; *Kehräjä*, Finn.; *Kozodoy-polunotschnik*, Russ.

♂ *ad.* (Sweden). Upper parts dark ashy-grey pencilled, vermiculated and streaked with blackish brown and warm buff; primaries blackish, marked with rufous on the outer web, the first three with a white spot near the end of the inner web; tail with the two outer feathers on each side broadly terminated with white; under parts greyish buff, narrowly barred with blackish brown, the abdomen and crissum orange buff; on each side of, and in the middle of the throat a white patch; beak and

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iris black ; legs reddish brown. Gape 1·2, wing 7·8, tail 5·5, tarsus 0·8 inch. In the female the white spots on the wings and tail are replaced by dull orange buff, slightly marbled with brown.

Hab. Europe generally, as far north as Trondhjem in Norway, Gefle in Sweden, and Kuopio in Finland; in winter migrating down to S. Africa; Asia as far east as Lake Baikal in the north, and Afghanistan, Kashmir, and Mongolia in the south, visiting the Punjab, Sind, and occasionally the N.W. Provinces of India in winter.

During the day this species remains concealed in some shady place, if on a branch perched lengthways, and emerges when the shades of evening set in. It frequents open glades in the woodlands where it may be seen flying noiselessly round, hawking after winged insects. It feeds on moths, beetles, and insects of various kinds, which are chiefly captured on the wing. Its note when resting is a churring sound, and on the wing it utters a loud whistle and strikes the points of its wings together, producing a loud sound. It makes no nest, but in June deposits its two eggs in a slight hollow on the ground in the woods or on the open heath. These are elongated, tapering equally towards each end, in ground colour varying from nearly pure white to greyish or pale buffy white and are blotched, marbled and spotted with pale purplish or purplish grey underlying, and dark brown surface-markings, and in size average about 1·23 by 0·85.

West European specimens are as a rule darker, and Asiatic ones (*C. unwini* and *C. plumipes*) are paler, but this difference is very variable, as I have seen European birds as pale and grey as others from Asia.

619. Russet-necked Nightjar.

CAPRIMULGUS RUFICOLLIS.

Caprimulgus ruficollis, Temm. Man. d'Orn. i. p. 438 (1820) ; Gould, B. of E. ii. pl. 52 : Newton, ii. p. 386 ; Dresser, iv. p. 633, pl. 273 ; Hartert, Cat. B. Br. Mus. xvi. p. 531 ; Saunders, p. 269 ; Lilford, ii. p. 33, pl. 14.

Engoulevent à collier roux, French; *Noitibó*, Portug.; *Chotacabras, Zumaya*, Span.; *El Hâma, Mĕlil*, Arabic.

♂ *ad.* (England). Resembles *C. europæus* in general, but is larger, paler, more rufous, especially on the under parts, the chin is reddish ochraceous, below which there is a white patch larger than in *C. europæus ;* lower neck

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encircled by a broad yellowish rufous collar, marked and varied with black and dark brown; bill blackish brown; legs dull brown; iris black. Gape 1·3, wing 7·9, tail 6·25, tarsus 0·95 inch. Female similar, but lacks the white spots on the wings and tail.

Hab. Portugal, Spain; of rare occurrence in southern France; has once been obtained in England, once in Dalmatia, and twice in Malta; is found in N. Africa as far east as Tunis, and regularly visits some of the Canary islands.

In general habits, food, etc., it does not differ from *C. europæus*, and like that species forms no nest, but places its two eggs in a depression in the ground, generally amongst scrubby brush-wood. These resemble those of *C. europæus* but are slightly larger, and as a rule scarcely so variable.

In N.W. Africa, south of the Atlas range, paler and more rufous varieties occur, and this form has been described as a subspecies by Baron Carlo von Erlanger and figured by him (J. f. Orn. 1899, taf. xi.) under the name *C. ruficollis desertorum*.

620. Indian-Nightjar.

CAPRIMULGUS INDICUS.

Caprimulgus indicus, Latham, Ind. Orn, ii. p. 588 (1790); Blanf. F. Brit. Ind. Birds, iii. p. 190; *C. jotaka*, Temm. and Schlegel, F. Jap. Aves, p. 37, pl. 12 (1847); David and Oust, Ois. Chine, p. 67; Hartert, Cat. B. Br. Mus. xvi. p. 552; Tacz. F. O. Sib. O. p. 162; *C. kelaarti*, Blyth, J.A.S.B. xx. p. 175 (1851); Legge, B. of Ceyl. p. 337; Hartert, tom. cit. p. 555.

Yotaka, Jap.; *Chippak*, Hindu.

♂ *ad.* (India). Upper parts dark brown, spotted and blotched with black; crown, nape, and back with black spots and streaks throughout; an indistinct collar of buff spots; wing-coverts with whitish or fulvous spots; scapulars boldly marked with large black spots and broad buff margins; first four primaries with a large white spot in the middle; tail-feathers except the middle ones with well defined black bars, all but the middle ones, with white subterminal bands; under parts buff, barred with brown, darker on the breast; a large white spot on the throat, and a moustachial stripe buffy white; bill vinous brown, paler at the base, the tip black; legs vinous brown; iris dark brown. Wing 8·8, tail 5·7, tarsus, feathered in front, 0·65 inch. The female lacks the white on the tail-feathers, and the spots on the primaries are buff, the spot on the throat being also buff. Compared with *C. europæus*, this species is much darker and more boldly marked with black, especially on the crown, and has more white on the throat.

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Hab. India, Ceylon, Burma, Cochin China, Manchuria, Mongolia, Kan-su, south-eastern Siberia, Corea, Japan; in the winter it migrates south to Malacca, Java, Borneo, and New Guinea.

In most of its central range this species appears to be a resident, but in other parts migratory. It frequents forests and jungle and in its general habits does not materially differ from *C. europæus*, from which species it can readily be distinguished in having a subterminal white band on all but the middle tail-feathers, whereas *C. europæus* has only the two outer feathers on each side tipped with white. Its cry is described as *tchouk, tchouk, tchouk*, continuously uttered in the twilight. In Dauria eggs have been found in June and August, and in India it breeds from March to May, and probably therefore raises two broods in the season. The eggs, 2 in number, are placed on the ground, no nest being made, and are dull white blotched with three shades of umber and one shade of ashy brown, and measure 1·22 by 0·88 and 1·19 by 0·91. Indian specimens of this bird are smaller than those from Japan.

621. Egyptian Nightjar.

CAPRIMULGUS ÆGYPTIUS.

Caprimulgus ægyptius, Licht. Verz. Doubl. p. 59 (1823), Shelley; B. of Egypt, p. 75, pl. viii.; Dresser, iv. p. 629, pl. 272; Hartert, Cat. B. Br. Mus. xvi. p. 562; Saunders, p. 270; Lilford, ii. 36, pl. 15; Koenig, J. f. O. 1896, Tab. vi. fig. 2 (egg); *C. isabellinus*, Temm. Pl. Col. 379 (1825); *C. arenicolor*, Severtz. Ibis, 1875, p. 491.

Engoulevent isabelle, French; *El Háma*, Arab.

♂ *ad.* (Turkestan). Sandy greyish isabelline, vermiculated and barred with black; inner webs of the primaries chiefly white, but no white spots on the wings or tail; tail vermiculated and barred with black; under parts sandy isabelline, narrowly barred with blackish; a patch on the throat white; legs reddish brown, beak dark brown; iris black. Gape 1·1, wing 8·1, tail 5·3, tarsus 0·9 inch. The female differs merely in being slightly duller in colour and markings, and lacks the white wing-spots.

Hab. N. Africa (Algeria, Tunis, Egypt, and Nubia); Transcaspia, Turkestan, Afghanistan, and Baluchistan; has once occurred in England, once in Heligoland, twice in Sicily, and three times in Malta.

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In general habits it resembles *C. europæus*, but frequents the sand deserts and chiefly the small groves on the borders of the true desert, and is a migrant, passing south for the winter, at least as far as Fashoda. Its food consists, like that of our Nightjar, of insects of various kinds. Its note is also similar but softer and less prolonged, and when disturbed it utters a little snapping sound. It breeds in May and deposits its two eggs on the sand, making no nest. These are dull pale greyish yellow with faint ashy grey shell-markings, and clay-yellow surface-blotches, and measure about 1·33 by 0·82.

There is considerable individual variation both in colour and size in this species, some being lighter and more isabelline, and others darker and greyer in tone of colour, but I cannot admit any of these even to subspecific rank. Baron von Erlanger, however, describes the pale isabelline variety as a subspecies and figures (J. f. O. 1899, taf. xii.) the two extreme forms.

622. Sykes's Nightjar.

CAPRIMULGUS MAHRATTENSIS.

Caprimulgus mahrattensis, Sykes, P.Z.S. 1832, p. 83; Gould, B. of As. i. p. 19; Blanf. E. Persia, ii. p. 128; Barnes, J., Bombay Nat. Hist. Soc. iv. pl. 1 (eggs); Hartert, Cat. B. Br. Mus. xvi. p. 561; Blanf. F. Brit. Ind. Birds, iii. p. 184; *C. arenarius*, Blyth, J.A.S.B. xv. p. 21 (1846).

♂ *ad.* (India). Resembles *C. ægyptius* in coloration, but has a shorter wing, the three first primaries rufescent isabelline at the base, otherwise dark brown with large white spots in the middle of the feather; the two outer tail-feathers white on about one-third of their length; under tail-coverts unbarred buff; bill dark brown; legs pale fleshy brown; iris dark brown. Wing 6·9, tail 4·2, tarsus, which is only feathered at the base, 0·8 inch. The female differs in having the spots on the primaries buff, and the white tips to the two outer tail-feathers shorter and tinged with sandy buff.

Hab. Afghanistan, Baluchistan; the plains of India east to Upper Bengal and south to Belgaum.

In general habits agreeing with *C. ægyptius*, like that species it is usually to be met with in sandy localities. It breeds, in Sind, in May and June, depositing two eggs, which are greyish white marbled and blotched with very pale grey or greyish lilac shell-markings, and pale sepia-brown overlying surface-spots and blotches, and measure about 1·13 by 0·80.

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PICUS, Linn., 1766.

623. Great Black Woodpecker.

PICUS MARTIUS.

Picus martius, Linn. Syst. Nat. i. p. 173 (1766); Naum. v. p. 253, Taf. 131; Hewitson, i. p. 238, pl. lxi. fig. 1; Gould, B. of E. iii. pl. 225; id. B. of Gt. Brit. iii. pl. 73; Newton, ii. p. 482; (Dresser), v. p. 3, pl. 274; Hargitt, Cat. B. Br. Mus. xviii. p. 518; Saunders, p. 278.

Pic noir, French; *Picchio nero*, Ital.; *Zwarte Specht*, Dutch; *Schwarz-Specht*, German; *Sortspet*, Dan.; *Svartspet*, Norweg.; *Spilkråka*, Swed.; *Palokärki*, Finn.; *Dyatell-Jelna*, Russ.

♂ *ad.* (Finland). Glossy black, tinged with brown on the breast; wings and tail blackish brown; crown crimson, narrowing into an occipital crest in the nape; tarsus feathered in front for about two-thirds of its length; bill bluish white becoming blackish towards the tip; legs and feet dark grey; iris light yellow. Culmen 2·6, wing 9·0, tail 7·0, tarsus 1·3 inch. The female is duller and browner in colour, and the crimson on the head is confined to a patch on the occiput.

Hab. Europe, in pine forests from Lapland down to the Pyrenees and Sicily; of rare occurrence on the Iberian peninsula, but its occurrence in Britain has not been substantiated; Asia east to Kamchatka and Japan, south to Mongolia, Manchuria, and Northern China.

Frequents forests where old and decayed trees are numerous, and is as a rule shy and wary. Its note is a loud *kree, kree, kree*, which is often uttered, especially before rainy weather. Its flight is heavy, but swift, consisting of a succession of bow-shaped dips, and it seldom flies far at a time. Its food consists chiefly, if not entirely, of insects of various kinds, especially ants. It bores its rather deep nest-hole at some height in an aspen, fir, birch, or poplar tree, and in April or May deposits 4 eggs on the chips at the bottom of the nest-hole. These are glossy white tapering towards the smaller end and measure about 1·16 by 1·01.

624. Richards' Woodpecker.

PICUS RICHARDSI.

Picus richardsi (Tristram), P.Z.S. 1879, p. 386, pl. xxxi; (Hargitt, Cat. B. Br. Mus. xviii. p. 506; (Seebohm) Ibis, 1892, p. 248.

♂ *ad.* Upper parts, wings, tail (except as below) neck, and upper breast glossy black; forehead, crown, crest, and malar stripe rich scarlet-

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crimson; lower back, rump, lower breast, and under parts white; bases and tips of most of the primaries white; sides of the upper throat and ear-coverts finely streaked with white; feathers on the lower abdomen black, tipped with white; bill dusky grey, paler at the tip and at the base below; legs dark grey; iris light yellow. Culmen 2·5, wing 9·65, tail 6·80, tarsus 1·2 inch. The female is browner in tinge of colour and lacks the red colour on the head.

Hab. Corea and the island of Tsu-sima between Corea and Japan.

I find nothing on record respecting its habits or nidification in which it probably resembles *P. martius*.

DENDROCOPUS, Koch, 1816.

625. PIED WOODPECKER.

DENDROCOPUS MAJOR.

Dendrocopus major (Linn.), Syst. Nat. i. p. 176 (1766); (Naum.), v. p. 298, Taf. 134; (Hewitson), i. p. 240, pl. lxi. fig. 3; (Gould), B. of Gt. Brit. iii. pl. 70; Newton, ii. p. 470; (Dresser), v. p. 19, pl. 275; Hargitt, Cat. B. Br. Mus. xviii. p. 211; Tacz. F. O. Sib. O. p. 712; Saunders, p. 275; Lilford, ii. p. 6, pls. 2, 3; *D. cissa* (Pall.), Zoogr. R. As. i. p. 412 (1811); Hargitt, tom. cit. p. 214; *D. purus*, Stenj. Auk. 1884, p. 35.

Pic épieche, French; *Peto malhado*, Portug.; *Picamaderos*, Span.; *Picchio maggiore*, Ital.; *Grosser Buntspecht*, Germ.; *Bonte Specht*, Dutch; *Stor Flagspet*, Norw. and Dan.; *Större Hackspett*, Swed.; *Isompi-Tikka*, Finn.; *Obiknovennoi-Dyatell*, Russ.

♂ *ad.* (Sweden). Upper parts chiefly black; occiput crimson; forehead fulvous white; lores, cheeks, ear-coverts, sides of neck and scapulars white; quills barred with white on the outer web, as are the outer tail-feathers; under parts more or less white; lower abdomen and under tail-coverts crimson; bill lead-grey; legs greenish grey; iris pale reddish. Culmen 1·1, wing 5·8, tail 4·0, tarsus 0·95 inch. The female lacks all red on the head, and the young have the crown crimson from the frontal band to the occiput.

Hab. Europe generally, from about 70° N. lat., down to the Mediterranean; Canaries; Asia Minor; Asia east to Kamchatka and the sea of Japan, and south to Mongolia.

Frequents woodlands and the true forest, and in the summer especially is somewhat fond of solitude. As a rule it is a

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resident or only a partial migrant, wandering away in search of food in the winter, when it sometimes consorts with other species. Its note is a sharp *tick* or *tschick*, and in the spring it often makes a loud whirring sound by rapidly hammering a bough. Its food consists of insects of various kinds, caterpillars, larvæ, ants, &c., and it is especially useful as a destroyer of injurious insects and their larvæ; it is also said to eat nuts, conifer-seeds, and berries. It bores its nest-hole in a tree, usually one which is rotten at heart, and on the bare bottom deposits in May its 4 to 7 eggs, which are glossy white, oval, tapering towards the small end, and in size measuring about 1·0 by 0·68.

Examples from the Canaries have, as a rule, the under parts darker than average northern birds, and those from N. and N.E. Asia, especially from Kamchatka, have these parts pure white.

626. Caucasian Pied Woodpecker.

DENDROCOPUS POELZAMI.

Dendrocopus poelzami (Bogd.), Ptitz. Kavkaz. p. 121 (1879); Dresser, ix. p. 255, pl. 688; Hargitt, Cat. B. Br. Mus. xviii. p. 214; Radde, Orn. Caucas., p. 310, pl. xx.

Persidski-Dyatell, Russ.

♂ *ad.* Differs from *D. major* in being smaller, the bill more slender, and in having the under parts dark brown inclining to chocolate, and much less white on the inner wing-coverts. Culmen 1·4, wing 4·85, tail 3·0, tarsus 0·95 inch. The female differs in lacking the crimson occipital band and in being rather smaller than the male.

Hab. Caucasus.

In general habits, note, and nidification this species does not appear to differ from *D. major*.

627. White-winged Woodpecker.

DENDROCOPUS LEUCOPTERUS.

Dendrocopus leucopterus, Salvadori, Atti R. Ac. Sc. Tor. vi. p. 129 (1870–71); (Dresser), ix. p. 249, pl. 687; Hargitt, Cat. B. Br. Mus. xviii. p. 215; *D. leptorhynchus* (Severtz.), Ibis, 1875, p. 487.

Sokochak, Turki; *Dongouse-Kouche* in Transcaspia.

♂ *ad.* (Turkestan). Differs from *D. major* in having the forehead, sides of the head, throat, and under parts pure white; middle of the

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abdomen, vent, and under tail-coverts red, this colour extending up to the lower breast; quills whiter than in *D. major*, this colour covering quite as much of the area of the quills as the black. Culmen 1·25, wing 4·9, tail 3·65, tarsus 0·9 inch.

Hab. Eastern Transcaspia, Turkestan, and western Mongolia.

In habits this species resembles *D. major*, but its note is said to be softer and more frequently uttered.

628. Japanese Pied Woodpecker.

DENDROCOPUS JAPONICUS.

Dendrocopus japonicus (Seebohm), Ibis, 1882, p. 24; Hargitt, Cat. B. Br. Mus. xviii. p. 216; *D. gouldii*, Stejn. Proc. U.S. Nat. Mus. 1886, p. 112 (nec. Malh.).

Akagera, Jap.

♂ *ad.* Resembles *D. major*, but is somewhat smaller, the forehead and under parts are more buff in colour, the terminal half of the outer tail-feathers is pale buff and the black bars are narrower; the scapulars have more black at the base, and the innermost secondaries are spotted with white. Culmen 1·2, wing 5·3, tail 3·3, tarsus 0·95 inch. The female lacks the red on the occiput. The young differs appreciably from that of *D. major* in having the under parts profusely streaked with black on the flanks and sides of the breast and the rest of the under parts with transverse black markings, whereas the young of *D. major* have the under parts nearly uniform buffish white.

Hab. Japan and the Kurile islands.

In habits and nidification it does not differ from *D. major*. It breeds in May, June, and July, and deposits in a hole excavated in a tree four eggs, similar to those of *D. major*.

629. Algerian Pied Woodpecker.

DENDROCOPUS NUMIDICUS.

Dendrocopus numidicus (Malh.) Mém. Acad. Metz, ii. p. 242 (1842); (Loche), Expl. Sc. Alg. Ois. ii. p. 79, pl. ix; (Dresser), v. p. 33, pl. 276; Hargitt, Cat. B. Br. Mus. xviii. p. 217.

Nokaïb, Nagab ed Djour, Arab.

♂ *ad.* (Algeria). Differs from *D. major* in having a broad pectoral gorget of crimson, slightly mixed with black, and the centre of the abdomen and vent crimson; bill dark blue-grey, the lower mandible paler; feet lead grey; iris reddish. Culmen 1·2, wing 4·8, tail 3·4, tarsus 0·9 inch. The female lacks the crimson on the occiput, and the young has the forehead blackish brown and the fore-part of the crown crimson.

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Hab. Algeria.

In habits, note, and nidification this species does not appear to differ from *D. major*. It deposits 4 or 5 glossy white eggs which measure about 0·91 by 0·71.

630. Moorish Pied Woodpecker.

DENDROCOPUS MAURITANUS.

Dendrocopus mauritanus (L. Brehm.) Naumannia, 1855, p. 274 ; (Dresser) ix. p. 253, pl. 689, fig. 3 ; Hargitt, Cat. B. Br. Mus. xviii. p. 216.

♂ *ad.* (Tangier). Differs from *D. numidicus* in not having the broad black stripes which border the throat and fore-neck united across the neck, there being a narrow white space between, on which the feathers are tipped with scarlet, and the lateral tail-feathers are much more distinctly barred with black. Culmen 1·15, wing 4·9, tail 3·25, tarsus 0·9 inch. The female lacks the crimson occipital band.

Hab. Morocco.

In general habits and nidification not differing from *D. major*.

631. Himalayan Pied Woodpecker.

DENDROCOPUS HIMALAYENSIS.

Dendrocopus himalayensis (Jard. and Selby), Ill. Orn. iii. pl. 116 (1835) ; Hargitt, Cat. B. Br. Mus. xviii. p. 220 ; Blanf. F. Brit. Ind. Birds, iii. p. 34.

Turkan, Chamba.

♂ *ad.* (Himalayas). Differs from *D. major* in having the scapulars black, the crown and occiput crimson, the lower abdomen more fulvous and the vent and under tail-coverts only pale crimson ; bill brown, pale at the base of lower mandible ; legs and feet plumbeous brown ; iris red-brown. Gape 1·35, wing 5·2, tail 3·5, tarsus 0·9 inch. The female has the crown and occiput black.

Hab. The Western Himalayas, from Kumaun to Murree, to Afghanistan in the west, and Gilgit in the north.

In habits it does not differ from *D. major*. It breeds up to 10,000 and even 11,000 feet, from the middle of April to the end of May, generally boring its nest-hole in an oak, and depositing 4 or 5 glossy white eggs, which measure about 1·0 by 0·75.

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632. Chinese Pied Woodpecker.

DENDROCOPUS CABANISI.

Dendrocopus cabanisi (Malherbe), J. f. O. 1854, p. 172; (Gould), B. of Asia, vi. pl. 17; Hargitt, Cat. B. Br. Mus. xviii. p. 218; Blanf. F. Brit. Ind. Birds, iii. p. 35; (Berez. and Bianchi), Ptitz. Gan-su, etc. p. 49; *P. luciani*, Malh. fide Bp. Comp. Volucr. Zygod. p. 8 (1854); *P. mandarinus*, Malh. Bull. Soc. d'Hist. Nat. Moselle, 1857, p. 17.

♂ *ad.* Differs from *D. major* in having the scapulars black and the ear-coverts tawny brown, and from *D. himalayensis* in having only the occiput crimson, and the malar band broader; feathers between the ends of the black pectoral bands tipped with red; chin, throat, and breast fulvous brown. Culmen 1·2, wing 5·0, tail 3·4, tarsus 0·95 inch.

Hab. Kan-su, Ordos, the Amdos plateau, China, and the Manipur hills.

In general habits it is said to resemble *D. major*.

633. Darjeeling Pied Woodpecker.

DENDROCOPUS DARJILENSIS.

Dendrocopus darjilensis, Blyth, J.A.S.B. xiv, p. 196 (1845); Hargitt, Cat. B. Br. Mus. xviii. p. 221; Blanf. F. Brit. Ind. Birds, iii. p. 37; *D. majoroides* (Hodgs.), in Gray's Zool. Misc. p. 85 (1844); (Gray) Cat. Mamm. etc. Nepal, pp. 115, App. p. 155 (1846); *D. desmursi*, (Verr.) N. Arch. du Mus. vi. Bull. 7. p. 33 (1870).

Sadyer-mong-prek, Lepcha.

♂ *ad.* (Nepal). Nasal plumes black; forehead, lores, a narrow supercilium, sides of the head and ear-coverts whity brown; sides of neck behind the ear-coverts similar but washed with orange or golden yellow; crown and upper parts glossy black, but the occiput and nape light crimson, and the innermost, median, and greater wing-coverts chiefly or wholly white; wing-feathers black with white spots on both webs; tail-feathers black, the median two pair uniform, the others more or less barred with fulvous white; chin whitish, ends of bristles black; throat light brown unstriped; breast and abdomen yellowish fulvous, with longitudinal black stripes, becoming bars on the flanks; vent and under tail-coverts light crimson; upper mandible slaty black, lower horny grey; feet dingy green; iris reddish brown to deep crimson; orbital skin plumbeous. Gape 1·5, wing 5·0, tail 3·75, tarsus 0·9 inch. The female lacks the crimson on the occiput and nape.

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Hab. Nepal and Sikhim in the Himalayas at from about 3,000 to 12,000 feet elevation, through Southern Tibet to Moupin and Western Szechuen.

In general habits it does not differ from *D. major*, but as yet nothing is on record respecting its nidification.

634. Perny's Pied Woodpecker.

DENDROCOPUS PERNYI.

Dendrocopus pernyi (Verr.), Rev. and Mag. de Zool. 1867, p. 271, pl. 16; (David and Oust.), Ois. Chine, p. 48; Hargitt, Cat. B. Br. Mus. xviii. p. 225; (Berezovski and Bianchi), Ptitz. Gan-su, etc. p. 49.

♂ *ad.* (Kan-su). Somewhat resembles *D. darjilensis*, but is smaller, has no yellow on the sides of the neck, these parts being dull white; the under parts are paler, being buffy white, and less conspicuously striped; chin and upper throat white; the black stripes on each side of the throat widen below and merge into a broad deep black band which crosses the breast in the centre of which there is a crimson patch. The bill also is much smaller than that of *D. darjilensis*; bill greyish, the base of the under mandible yellow; legs greenish; iris red. Culmen 0·8, wing 4·22, tail 3·0, tarsus 0·7 inch.

Hab. Szechuen in Western China, Moupin and Eastern Tibet, where it is not rare.

According to Abbé David it is a resident, and its note is similar to that of *D. major*, from which it does not appear to differ in habits.

635. Sind Pied Woodpecker.

DENDROCOPUS SINDIANUS.

Dendrocopus sindianus, (Horsf. and Moore), Cat. B. Mus. E. I. Co. ii. p. 671 (1856-58); (Henders. and Hume.), Lab. to Yarkand, p. 179, pl. ii; Hargitt, Cat. B. Br. Mus. xviii. p. 227; Blanf. F. Brit. Ind. Birds, iii. p. 36.

♂ (Baluchistan). Resembles *D. syriacus*, but differs in having the entire crown and occiput, and not only the occiput, rich crimson. In the female the crown and occiput are black. Culmen 1·15, wing 4·8, tail 2·9, tarsus 0·8 inch.

Hab. Afghanistan, Sind, Baluchistan, and the Western Punjab as far north as Peshawar, Murree, and Sirsa; west to Bampur in S.E. Persia.

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It is said to frequent tamarisk-scrub, which abounds in Sind and the neighbouring countries, and breeds in holes in tamarisk and babul trees in March and April.

636. Syrian Pied Woodpecker.

DENDROCOPUS SYRIACUS.

Dendrocopus syriacus (Hempr. and Ehr.), Symb. Phys. Aves. fol. r. note 5 (1828); (Dresser), v. p. 35, pls. 277, 278; Hargitt, Cat. B. Br. Mus. p. 225; Blanf., E. Persia, ii. p. 130; *D. cruentatus* (Antinori), Naumannia, 1856, p. 411, Taf. 4; *D. felicie* (Malh.), Picidæ, i. p. 127, pl. xx. fig. 4, pl. xxviii. figs. 8-11 (1861); *D. khan*, Defilippi, Arch. Zool. ii. p. 400 (1864).

Nacar-el-Hairel, Arab.

♂ *ad.* (Asia Minor). Upper parts glossy black; occiput crimson; forehead pale creamy white; sides of face silky white; a black malar stripe joins another triangular patch on the sides of the neck, and extends in a semicircle to the breast; inner larger wing-coverts and scapulars white; quills black spotted with white on both webs; tail black with two yellowish white spots on each web of the two outer feathers; under parts creamy white, the abdomen and vent pale rose colour; bill bluish, the under mandible yellowish at the base; legs plumbeous; iris reddish. Culmen 1·3, wing 5·1, tail 3·5, tarsus 0·85 inch. The female differs in lacking the crimson occipital crest.

Hab. Asia Minor, Palestine, and Western Persia south to Farsistan.

In habits it resembles *D. major*, but is more often seen in cultivated districts, especially where fruit trees are numerous, and is never seen in large forests. Its note resembles that of *D. major*, but it is less noisy. It hews out its nest-hole in all sorts of trees, but most often fruit trees, and in May deposits 4 to 5 glossy white eggs which measure about 1·2 by 0·75.

637. Barred Woodpecker.

DENDROCOPUS MINOR.

Dendrocopus minor (Linn.), Syst. Nat. i. p. 176 (1766); (Naum.) v. p. 334, Taf. 136, figs. 3, 4; (Hewitson), i. p. 241, pl. lxi. fig. 4; (Gould), B. of E. iii. pl. 231; id. B. of Gt. Brit. iii. pl. lxxii; (Newton), ii. p. 477; (Dresser), v. p. 53, pl. 282; Hargitt, Cat. B. Br. Mus. xviii. p. 252; (Tacz.), F. O. Sib. O. p. 703; (Seebohm), B. of Jap. Emp. p. 155; Saunders, p. 277; Lilford, ii. p. 10, pl. 4; *D. quadrifasciatus* (Radde), Orn. Cauc. p. 315, pl. 19, fig. 5; Hargitt, tom. cit. p. 256.

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Pic épeichette, French; *Peto gallego*, Portug.; *Pipo*, Span.; *Picchio piccolo*, Ital.; *Kleiner Buntspecht*, German; *Mindste Flagspet*, Dan.; *Liden Flagspet*, Norw.; *Lilla Hackspett*, Swed.; *Tsitsach-tschaitne*, Lapp.; *Pieni Tikka*, Finn.; *Maloni-Dyatell*, Russ.

♂ *ad.* (Sweden). Upper parts generally black, barred with white; forehead and lores buffy white; crown pale crimson; lower back black barred with black; sides of the head buffy white; crown bordered by a narrow black stripe; malar stripe black continued to the sides of the neck where it joins a black triangular patch; outer tail-feathers white, barred with black on the basal portion; under parts dull white tinged with brown on the breast and flanks, the sides of the upper breast striped with black; bill and legs dusky plumbeous; iris reddish. Culmen 0·65, wing 3·8, tail 2·45, tarsus 0·55 inch. The female has the crown whitish, not crimson. The young are duller in colour; the young male has the crown dull crimson, but only the forepart is crimson in the young female.

Hab. Europe generally, from Lapland to the Mediterranean; Azores; Algeria; Asia through Southern Siberia to Mongolia, Manchuria, and Yezo in Japan.

Throughout its range it is a resident or only a partial migrant, and affects deciduous trees, especially fruit trees, in preference to conifers. Its flight is a succession of bow-shaped dips and whirring. It is very active and restless, and its note, which is softer and lower than that of its congeners, is *kiik, kiik, kiik, kiik*, uttered several times in succession. It feeds on insects of various kinds and their larvæ and eggs. Its nest is usually bored in a non-evergreen tree at from 6 to 20 feet above the ground, and its 4 to 6 glossy white eggs are deposited in May or June, and in size average 0·74 by 0·56.

638. Subsp. Dendrocopus pipra.

Dendrocopus pipra (Pall.), Zoogr. Ross. As. i. p. 414 (1811); (Dresser), v. p. 65, pl. 283; Hargitt. Cat. B. Br. Mus. xviii. p. 255; *D. kamtschatkensis* (Bp.), Consp. Volucr. Zygod. p. 8, No. 49 (1854); Tacz. F. O. Sib. O. p. 706; *D. immaculatus*, Stenj. Proc. Biol. Soc. Wash. ii. p. 98 (1884).

ad. (N. E. Siberia). Differs from *D. minor* in having the white portions of the plumage more extensive; the back is not regularly barred but has merely a few irregular indications of bars, the outer tail-feathers are much more faintly barred, and the under parts are pure white with faint indications of stripes on the sides of the breast. Culmen 0·72, wing 3·8, tail 2·7, tarsus 0·68 inch.

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Hab. N. Ural, throughout Northern Siberia, north of about 55° N. Lat. to Kamchatka and Behring Island.

In habits, note, and nidification this species does not differ from *D. minor*.

639. Subsp. Dendrocopus danfordi.

Dendrocopus danfordi (Hargitt), Ibis, 1883, p. 172; id. Cat. B. Br. Mus. xviii. p. 256; Dresser, ix. p. 239, pl. 689, fig. 2.

ad. (Asia Minor). Resembles *D. minor*, except that it has the branch from the black malar stripe passing quite round the posterior part of the ear-coverts, and joined to the occiput, and the under parts are darker and rather more distinctly barred.

Hab. Asia Minor and the Northern Caucasus.

I have no information respecting the habits of this species, but it doubtless does not differ appreciably from *D. minor* therein. Its eggs closely resemble those of *D. minor*.

640. Brown-fronted Woodpecker.

DENDROCOPUS AURICEPS.

Dendrocopus auriceps (Vigors), P.Z.S. 1831, p. 44; Blanf. F. Brit. Ind. Birds, iii. p. 40; *D. brunnifrons* (Vigors), P.Z.S. 1831, p. 176; Gould, Cent. B. Himal. pl. lii. (1832); Hargitt, Cat. B. Br. Mus. xviii. p. 264.

♂ *ad.* (Himalayas). Upper parts barred black and white; a broad band across the upper back, and upper tail-coverts black; crown brown tinged with olivaceous, the hinder feathers with golden tips; occiput scarlet; wings black spotted with white, as are the outer tail-feathers, the middle ones being uniform black; sides of head and neck, and chin white, finely striped with black; ear-coverts pale brown; a brown malar band passing into a black stripe on the side of the throat and fore-neck; under parts fulvous white striped with black, middle of the abdomen tinged with yellow; lower abdomen and under tail-coverts pale crimson; bill bluish horn, the base of the under mandible plumbeous; legs pale glaucous green; iris crimson. Culmen 1·0, wing 4·6, tail 3·2, tarsus 0·8 inch. The female is slightly smaller and lacks the red occiput, which is yellower than the crown.

Hab. Northern Afghanistan, Kashmir, and the Western Himalayas east to Nepal, at altitudes of from 2,000 to 9,000 feet.

In general habits it differs little from its congeners, and is said to frequent gardens, and to utter a soft, rolling whistle. It

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breeds in April and early in May, boring its nest-hole chiefly in oak- or fir-trees, and lays 4 or 5 pure white, glossy eggs, which measure about 0·92 by 0·68.

641. White-backed Woodpecker.

DENDROCOPUS LEUCONOTUS.

Dendrocopus leuconotus (Bechst.), Naturg. Deutschl. ii. p. 1034, Taf. 25, figs. 1, 2 (1805); (Naum.) v. p. 313, Taf. 135, figs. 1, 2; Gould, B. of E. iii. p. 228; (Dresser), v. p. 39, pl. 279; Hargitt, Cat. B. Br. Mus. xviii. p. 268; (Tacz.), F. O. Sib. O. p. 701; *D. cirris*, Pall. Zoogr. Ross. As. i. p. 410 (1811); *D. subcirris* (Stejn), Proc. U.S. Nat. Mus. 1886 p. 113.

Weissspecht, *Weissrückiger Specht*, Germ.; *Hvidrygget Flagspett*, Dan. and Norweg.; *Hvitryggiga Hackspett*, Swed; *Valkoselkä Tikka*, Finn.; *Ô-akagera*, Jap.

♂ *ad.* (Sweden). Forehead buffy white; crown to the nape scarlet; sides of the face and neck forming an interrupted collar, white; cheeks and a line to the breast, upper back, and upper tail-coverts black; lower back white, with a few faint black markings; wings black, spotted with white, as are the outer tail feathers, the latter also barred; middle tail-feathers black; under parts white, the throat and chest tinged with yellowish, the abdomen and under tail-coverts tinged with vermilion, the flanks striped with black; bill horn-blue; legs lead grey; iris nut-brown. Culmen 1·5, wing 5·7, tail 3·7, tarsus 1·0 inch. The female differs in having the crown black.

Hab. Northern and central Europe to N. Italy, Turkey and Southern Russia; Asia, through Siberia to Kamchatka, Mongolia, Manchuria, Corea, Yesso, and the northern part of the main Island of Japan. Not found in Great Britain.

In its general habits it is much less wild than its congeners; it frequents deciduous woods and groves, and is not found in conifer woods. Its note is softer and it is quieter than the other Woodpeckers. In winter it is to be found in gardens and even in villages. It feeds almost if not quite exclusively on insects of various kinds, but may in the autumn occasionally eat berries. It breeds in April boring its nest-hole usually in a very rotten tree, an elm, ash, or birch, and but rarely an oak, and deposits 3 or 4 glossy white eggs, like those of *D. major*, which measure about 1·7 by 0·76.

Examples from Eastern Europe and N. Siberia have as a rule the upper parts whiter, but I cannot consider them as even subspecifically separable.

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642. Greek Pied Woodpecker.

DENDROCOPUS LILFORDI.

Dendrocopus lilfordi (Sharpe and Dresser), Ann. and Mag. Nat. Hist. (4), viii. p. 436 (1871); (Dresser) v. p. 45, pl. 280; Hargitt, Cat. B. Br. Mus. xviii. p. 272.

♂ *ad.* (Greece). Differs from *D. leuconotus* in having the lower back broadly barred with black, and the vermilion colouring on the under parts richer and deeper. Culmen 1·6, wing 5·2, tail 3·8, tarsus 1·0 inch. The female differs in having the crown black, and not rich crimson as in the male.

Hab. Greece, Dalmatia, Bosnia, Turkey, and the Ionian Islands, and has occurred as far west as Ancona and Genoa; Asia Minor in the Taurus range.

But little is known respecting the habits of this species, but as far as I can gather they do not differ from those of *D. leuconotus*. It breeds in Greece, the Herzegovina and Bosnia; its breeding habits and eggs being similar to those of *D. leuconotus*.

643. Japanese White-backed Woodpecker.

DENDROCOPUS NAMIYEI.

Dendrocopus namiyei (Stejneger), Proc. U.S. Nat. Mus. 1886 p. 116, pl. ii.; Hargitt, Cat. B. Br. Mus. xviii. p. 273.

♂ *ad.* Similar to *D. leuconotus*, but much darker; lower back with a few white cross bars only; white spots on wings fewer and smaller, and no white band formed by the middle coverts, only a few of the inner ones having a white spot; great wing-coverts with only one sub-apical white spot on the outer web; ear-patch and lateral neck-patch completely separated by a black streak. Exposed culmen 1·34, wing 5·74, tail 3·46, ext. ant. toe without claw, 0·71 inch.

Hab. South-western portion of Hondo Island, Japan.

There appears to be nothing on record respecting the habits and nidification of this species. I have never seen a specimen and copy the description from Dr. Stejneger. It appears to be nearest allied to *Dendrocopus insularis* (Gould) from the island of Formosa.

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644. Middle spotted Woodpecker.

DENDROCOPUS MEDIUS.

Dendrocopus medius (Linn.), Syst. Nat. i. p. 176 (1766); (Naum.), v. p. 320, Taf. 136, figs. 1, 2; (Gould), B. of E. iii. pl. 230; Hargitt Cat. B. Br. Mus. xviii. p. 286; (Dresser), v. p. 47, pl. 281.

Picmar, French; *Picapau malhado*, Portug; *Picapuerco Picorelincho*, Span.; *Picchio-mezzano*, Ital.; *Mittelspecht*, Germ.; *Middelste-bonte-Specht*, Dutch; *Mellemspette*, Dan.; *Mellanspet*, Swed.

♂ *ad.* (S. Europe). Forehead buffy white; crown rich vermilion; sides of the head white, tinged with grey on the ear-coverts, and brown on the cheeks; on the sides of the neck a triangular patch of black from the hind-cheeks to the sides of the breast, passing also behind the ear-coverts nearly to the crown; nape and back black, tinged with grey on the rump; scapulars and the innermost wing-coverts white; quills blackish, externally spotted with white on the secondaries, forming four bars; tail black, the outer feathers barred and spotted with white; throat white; chest yellowish white, having on each side a crescentic line of black, nearly joined in the middle; abdomen rose colour; flanks striped with black; bill plumbeous paler at the base; legs plumbeous; iris cinnabar red. Culmen 1·0, wing 4·8, tail 3·3, tarsus 0·8 inch. The female differs little from the male being duller in colour.

Hab. Western, Central and Southern Europe from Southern Sweden to the Mediterranean, east to Southern Russia and the Caucasus; not occurring in Great Britain, Norway, or Finland.

Although it resembles *D. major* in its general habits, it differs in affecting deciduous woods and groves, but seldom being seen in conifer woods, and is often seen in meadows where old oaks are scattered about, or in gardens, or orchards. Its flight is swifter and lighter than that of *D. major*, but its note is very similar. It feeds on insects and their larvæ but also eats seeds and nuts. It bores its nest-hole in a non-evergreen tree, usually at a considerable height, and in April deposits five glossy white eggs which measure about 0·93 by 0·72.

645. Subsp. Dendrocopus sancti-johannis.

Dendrocopus sancti-johannis (Blanf.), Ibis, 1873, p. 226; (id.), E. Pers. ii. p. 138, pl. ix.; (Hargitt), Cat. B. Br. Mus. xviii. p. 288; (Radde) Orn. Cauc. p. 313, pl. xix. fig. 3; (Dresser), ix. p. 257.

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♂ *ad.* (Asia Minor). Differs from *D. medius* in having the under parts more richly tinged with yellow and red, and much more boldly striped with black; crown brilliant crimson; the two lateral tail-feathers have the white bars much narrower, the black bars therefore much broader, and more conspicuous. Culmen 1·02, wing 4·75, tail 2·85, tarsus 0·78 inch. The female is only a trifle less brightly coloured.

Hab. South-east Europe, Asia Minor, the Caucasus, and Persia.

Probably this bird does not differ from *D. medius* in its nesting habits, and its eggs are similar to those of that species.

IYNGIPICUS, Bonap., 1854.

646. Swinhoe's Pigmy Woodpecker.

IYNGIPICUS SCINTILLICEPS.

Iyngipicus scintilliceps (Swinhoe), Ibis, 1863, p. 96; (David and Oust.), Ois. Chine, p. 50; Gould, B. of Asia, vi. pl. xxi.; Hargitt, Cat. B. Br. Mus. xviii. p. 313; *I. kaleensis* (Swinhoe), Ibis, 1863, p. 390; (David and Oust.), Ois. Chine, p. 50; Hargitt, tom. cit. p. 315; Berezovski and Bianchi, Ptitz. Gan-su, &c. p. 48.

♂ *ad.* (China). Crown dark ashy-grey; occiput, nape, forepart of the back, and middle tail-feathers deep black; middle and lower back white, barred with black; wings black, spotted with white; lateral tail-feathers brownish buff, with indistinct blackish brown bars on the terminal portion; on each side of the occiput a minute scarlet stripe; malar stripe and ear-coverts dusky brownish buff; chin, sides of the face, and neck dull white; under parts buffy white, striped with black; bill horny plumbeous; legs plumbeous grey; iris red or reddish brown. Culmen 0·68, wing 4·0, tail 2·2, tarsus 0·64 inch. The female resembles the male, but lacks the red stripe on the sides of the occiput.

Hab. China north to Pekin, south to the islands of Formosa and Hainan; south-western Kan-su.

Throughout its range this species is said to be resident and found everywhere where there are trees, even in the towns. In habits it does not differ from its allies. The bird from Formosa, Hainan, and Eastern China (*I. kaleensis*) has been treated by Mr. Hargitt as subspecifically separable, but in this I cannot agree with him.

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647. Subsp. Iyngipicus doerriesi.

Iyngipicus doerriesi, Hargitt, Ibis, 1881 p. 398 ; id. Cat. B. Br. Mus. xviii. p. 314 ; Gould, B. of Asia, vi. pl. xxii ; Tacz. F. O. Sib. O. p. 719 ; *I. mitchellii* (Radde), Reis. Süd. Ost. Sib. p. 140.

♂ *ad.* (Askold). Differs from *I. scintilliceps* in being larger, the back whiter, either unbarred or with but faint traces of bars, and the under parts are paler and more finely striped. Culmen 0·7, wing 4·3, tail 2·6, tarsus 0·65 inch.

Hab. The Ussuri country, the island of Askold, south-eastern Manchuria, and Corea.

Is said to be a resident throughout its range, but nothing appears to be on record respecting its habits or nidification.

648. Japanese Pigmy Woodpecker.

IYNGIPICUS KIZUKI.

Iyngipicus kizuki (Temm.), Pl. Col. iv. livr. 99 (1836) ; (id. and Schlegel), Faun. Jap. p. 74, Taf. 37 ; Hargitt, Cat. B. Br. Mus. xviii. p. 318 ; Seebohm, B. Jap. Emp. p. 156 ; *I. seebohmi* Hargitt, Ibis, 1884, p. 100 ; id. tom. cit. p. 319.

♂ *ad.* (Japan). Crown warm ashy brown ; sides of the head, nape, and forepart of the back similar but browner ; upper parts, wings, and middle tail-feathers black, the wings spotted, and the back and scapulars barred with white ; outer tail-feathers buff, barred with black ; malar stripe blackish brown ; lores, a patch behind the eye, and a stripe bordering the malar stripe, chin, throat, and an interrupted collar pure white ; under parts fulvous white, striped with brown ; a small red stripe on each side of the occiput. Culmen 0·65, wing 3·3, tail 2·2, tarsus 0·6 inch. The female is similar, but lacks the occipital red stripe.

Hab. Japan, Corea, and the Ussuri country in south-eastern Siberia.

It is said to be a resident, and often consorts with Tits; its cry is described as *geed, geed.* Specimens from the Ussuri Corea, and Northern Japan (*I. seebohmi*) are as a rule somewhat greyer on the crown, and have the under parts whiter, but in a series I find these differences by no means constant, and cannot therefore allow even subspecific rank to this form.

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PICOIDES, Lacép., 1801.

649. THREE-TOED WOODPECKER.

PICOIDES TRIDACTYLUS.

Picoides tridactylus (Linn.), Syst. Nat. i. p. 177 (1766) ; (Naum.), v. p. 346, Taf. 137, figs. 1, 2 ; (Gould), B. of E. iii. pl. 232 ; Dresser, v. p. 69, pl. 284 ; Hargitt, Cat. B. Br. Mus. xviii. p. 275 ; Tacz. F. O. Sib. O. p. 722 ; *P. crissoleucus* (Bp.), Consp. Voluc. Zygod. p. 8. (1854) ; Hargitt, tom. cit. p. 277 ; *P. albidior*, Stejn. Bull. U.S. Nat. Mus. 1885, p. 231.

Dreizehen Specht, Germ. ; *Tretaaet Flagspette*, Dan. ; *Tretaaet Spette*, Norweg. ; *Tretâiga Hackspetten*, Swed. ; *Caitne*, Lapp. ; *Kolmevarpainen Tikka*, Finn. ; *Trechperstnyi-Dyatell*, Russ.

♂ *ad.* (Sweden). Forehead and eyebrow blue-black, spotted with white ; crown yellow, obsoletely barred with white ; middle of the back white ; sides of the face and nape, malar stripe, and a line surrounding the eye and ear-coverts, upper parts generally, wings, and tail blue-black ; primaries, innermost secondaries, and outer three tail-feathers spotted, barred, and tipped with white ; a line from the lores down the cheeks, and another from the eye above the ear-coverts and joining behind the nape, also white ; under parts white, the sides of the upper breast streaked, the flanks and under tail-coverts barred with black ; bill dark lead-brown ; legs plumbeous ; iris rich dark reddish brown. Culmen 1·2, wing 4·85, tail 3·5, tarsus 0·85 inch ; three toes only. The female lacks the yellow on the crown, which is black.

Hab. Northern and Central Europe, only in the mountains in the South ; common in Lapland but not found in Western Europe or Great Britain, and of very rare occurrence in Denmark ; Asia, east to Kamchatka and south to Manchuria.

In its general habits it resembles its allies, is quick and active in its movements, and frequents both deciduous and conifer woods, especially where fire has devastated the forest. It feeds on insects and their larvæ, and but seldom, when pressed, eats berries. It bores its nest-hole in a conifer or non-evergreen tree, and early in June deposits 4 to 6 glossy white eggs which in size average 0·95 by 0·72.

Specimens from the high north, and from North-east Siberia have more white in the plumage than those from the mountains of Central Europe.

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GECINUS, Boie, 1831.

650. GREEN WOODPECKER.

GECINUS VIRIDIS.

Gecinus viridis (Linn.), Syst. Nat. i. p. 175 (1766); (Naum.), v. p. 270, Taf. 132, figs. 1, 2; (Hewitson), i. pl. lxi. fig. ii.; (Gould), B. of E. iii. pl. 226; id. B. of Gt. Brit. iii. pls. 74, 75; Newton, ii. p. 457; Dresser, v. p. 77, pl. 285; Hargitt, Cat. B. Br. Mus. xviii. p. 36; Saunders, p. 273; Lilford, ii. p. 2, pl. 1; *G. karelini* (Brandt) Bull. Sc. Acad. Imp. St. Petersbg. ix. p. 12 (1842); *G. saundersi* Tacz. J. f. O. 1878, p. 249.

Pic vert, French; *Picchio verde*, Ital.; *Grünspecht*, Germ.; *Groene Specht*, Dutch; *Grœnspet*, Dan. and Norw.; *Grön Hackspett*, *Gröngöling*, Swed.; *Zelenöi-Dyatell*, Russ.

♂ *ad.* (England). Above green; lower back, rump, and upper tail-coverts brilliant yellow, the latter tinged with green; crown and nape brilliant scarlet; lores, eyebrows, and round the eye black; malar stripe scarlet; primaries brown, barred and blotched with whitish; secondaries golden green; tail brownish black, barred with greyish brown, the outer feathers green; ear-coverts, sides of neck, and under parts from chin to vent greyish green, paler on the throat and sides; the abdomen and under tail-coverts with indistinct darker bars; bill dark lead-grey, paler at the base, blackish at the tip; legs dark grey; iris bluish white. Culmen 1·7, wing 6·3, tail 4·2, tarsus 1·1 inch. The female differs in lacking the scarlet malar stripe, and the young are duller and paler, and have the crown-feathers grey, tipped with scarlet.

Hab. Europe generally except in the south-west; Norway up to the Trondhjemfjord; Sweden to about 60° N. lat.; not found in Finland; England and Wales, rare in Scotland, and very rare in Ireland; Asia Minor, the Caucasus, and east to Persia.

Frequents woods, groves, and orchards, where conifers and deciduous trees are intermixed, but does not affect the conifer woods or the true forest. It is active in its movements and most industrious in examining the bark of trees for its food, which consists of insects of various kinds and their larvæ, especially ants and their pupæ; it will also eat acorns and nuts. Its flight is soft and undulating but not prolonged. Its note is a loud laugh *plui, plui, plui*, and a softer *yuck, yuck*, and in the spring it is somewhat noisy. It bores its nest-hole in a tree, seldom in a conifer, and clearing out most of the chips, in April or May lays at the bottom of the hole 6 or 7 glossy white eggs which average 1·20 by 0·85 in size.

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651. Sharpe's Green Woodpecker.

GECINUS SHARPII.

Gecinus sharpii, Saunders, P.Z.S. 1872, p. 153 ; Dresser, v. p. 89, pl. 286 ; Hargitt, Cat. B. Br. Mus. xviii. p. 40.

Peto-verde, Peito amarillo, Portug. ; *Pico verde, Peto real*, Span.

♂ *ad.* Differs from *G. viridis* in having the lores, eyebrows, and face slate-grey, with only a black spot on the loral region, the malar stripe scarlet, and not bordered with black. Culmen 1·5, wing 6·3, tail 4·2, tarsus 1·1 inch. The female has the malar stripe black, not scarlet, and the young bird differs from that of *G. viridis* in having the sides of the face grey.

Hab. Portugal, and Spain south of the Guadarrama range.

In habits, note, and nidification, this species does not differ from *G. viridis*.

652. Algerian Green Woodpecker.

GECINUS VAILLANTI.

Gecinus raillanti (Malh.), Cat. rais. des Ois. d'Alg. Mém. de la Soc. d'Hist. Nat. de Metz, p. 5 (1846) ; Dresser, v. p. 93, pl. 287 ; Hargitt, Cat. B. Br. Mus. xviii. p. 41 ; *G. algirus* Levaill. jun., Expl. Sc. d'Algér. Ois. pl. 8 (1848–49).

Nakâb-el-tebak, Moorish ; *N'ŏkaib, Nagab-ed-Djour*, Arabic.

♂ *ad.* (Algeria). Differs from *G. viridis* in having the face grey and the malar stripe black, and from *G. sharpii* in having the malar stripe black, an indication of a whitish stripe above the malar region, and a white spot at the base of the upper mandible ; bill dark lead-grey, blackish at the tip and yellowish on the basal third below ; legs dark grey ; iris white. Culmen 1·6, wing 6·1, tail 4·05, tarsus 1·1 inch. The female has the crown slate-grey, the feathers tipped with blackish grey, and the nape only crimson.

In habits, note, and nidification, it does not differ from *G. viridis*.

653. Japanese Green Woodpecker.

GECINUS AWOKERA.

Gecinus awokera (Temm.), Pl. Col. iv. No. 25, pl. 585 (1826) ; (id. and Schlegel), F. Jap. p. 72, pl. xxxvi. ; Hargitt, Cat. B. Br. Mus. xviii., p. 41.

Awokera, Jap.

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♂ *ad.* (Japan). Forehead, lores, and space below the eye dusky black; crown to nape crimson, the feathers dusky grey, spotted with black at the base; hind-neck dusky black; upper parts olive-green, the feathers on the rump and upper tail-coverts tipped with yellow; quills blackish, the outer webs of the primaries spotted with white; tail dull brownish, faintly barred with greyish, the middle feathers margined with golden olive at the base; face, sides and front of neck slate-grey; malar stripe crimson and black; chin and throat white; under parts yellowish white, tinged with grey on the upper breast, marked with crescentic and V-shaped black marks; under tail-coverts barred with black; bill dark greenish, at the base lemon yellow; legs dull olive green; iris venetian red. Culmen 1·6, wing 5·6, tail 3·95, tarsus 1·15 inch. The female has the malar stripe as in the male, but the crown is smoky grey, and only the occiput and nape are crimson.

Hab. Japan, on the main island and that of Kiushiu.

In habits this species does not differ from its allies. Its nest-hole is bored in a tree usually at from 4 to 10 feet above the ground, and from late in April to the middle of July it deposits 4 to 7 eggs resembling those of *G. viridis*.

654. Yellow-billed Green Woodpecker.

GECINUS FLAVIROSTRIS.

"*Gecinus flavirostris* Zarudny," Menzbier, Bull. Soc. Imp. Nat. Mosc. pt. i. p. 440 (1886); Dresser, ix. p. 261, pl. 690; *G. gorii*, Hargitt, Cat. B. Br. Mus. xviii. p. 45; *G. zarudnoi*, Menzbier, Ibis, 1887, p. 301.

♂ *ad.* (Afghanistan). Upper parts pale green, with indistinct darker squamations; wings and tail barred with blackish; rump and tail yellower than the back; crown to the nape crimson, narrowly bordered with blackish; malar stripe black and white; throat and chest uniform dull greenish yellow; rest of the under parts yellowish white, with squamate blackish-olive markings; bill wax-yellow, slightly darker at the base on the sides; legs plumbeous grey with a bluish tinge; iris yellowish white. Culmen 1·8, wing 6·5, tail 4·7, tarsus 1·2 inch. The female has the crown and nape deep black, not crimson, and many of the feathers are margined with white.

Hab. Transcaspia, east into Afghanistan.

This species is nearest allied to *G. squamatus* (Vigors), of which it is a desert form. In habits and nidification it resembles its congeners, and deposits early in April 4 to 5 glossy white eggs which measure about 1·18 by 1·08.

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655. Grey-headed Green Woodpecker.

GECINUS CANUS.

Gecinus canus (Gmel.), Syst. Nat. i. p. 434 (1788); (Naum). v. p. 286, Taf. 133, figs. 1, 2; (Gould), B. of E. iii. pl. 227; Dresser, v. p. 95, pl. 288; David and Oust. Ois. Chine, p. 51; Hargitt, Cat. B. Br. Mus. xviii. p. 352; Seebohm, B. Jap. Emp. p. 148; Tacz. F. O. Sib. O. p. 697.

Pic cendré, French; *Picchio cenerino*, Ital.; *Grauspecht*, German; *Kleine-groene-Specht*, Dutch; *Graaspette*, Dan. and Norweg.; *Grâspett*, Swed.; *Haamapainen-Tikka*, Finn.; *Sadozolovõi-Dyatell*, Russ.; *Yama-gera*, Jap.

♂ *ad.* (Sweden). Head and neck grey; nasal plumes tipped with black; fore-crown bright crimson, the hind-crown streaked with blackish; lores and malar stripe blackish; upper parts green, the lower back, rump, and upper tail-coverts golden yellow; quills and tail brownish, the former barred with dull white, the middle rectrices indistinctly barred with lighter ashy brown; throat grey; the rest of the under parts greenish; bill bluish, grey at the base below; legs greenish or bluish grey; iris varying from pinkish white to brownish red. Culmen 1·4, wing 5·7, tail 4·3, tarsus 1·0 inch. The female lacks the crimson on the crown, and the malar stripe is rather indistinct.

Hab. Europe generally, from the Trondhjemfjord to the south of Europe, where it becomes scarcer; has occurred in Lapland; not found in Great Britain; of rare occurrence on the Iberian peninsula. In the south-east it is found in the Caucasus; in Asia it ranges across Siberia to Yezo in Japan, and south to Corea, North China, and Manchuria.

In habits it resembles its ally *G. viridis*, and like that bird affects non-evergreen woods in preference to conifers, but it is scarcely so shy. As a rule it is a resident or only a partial migrant throughout its range. Its note is a clear call, like *klii*, *klih*, *klih*, *klyh*, *klyh*, *klüh*, *klüh*, *klüh*, *klüh*, gradually deepening in tone, and is not so loud or harsh as the cry of *G. viridis*. It feeds on insects of various kinds, caterpillars, larvæ, and especially on ants and their pupæ, and when insects are scarce will eat berries. It bores its nest-hole usually in a soft-wood tree at from 10 to 20 feet above the ground, and in May or early in June deposits 6 to 8 glossy white eggs, rather blunter, as a rule, at the larger end than those of *G. viridis*, and measuring about 1·21 by 0·85.

Dr. Stejneger separated the Japanese bird subspecifically as *G. canus jessoensis* (Proc. U.S. Nat. Mus., 1886, p. 106), and the

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Siberian bird (*tom. cit.* p. 107, note) as *G. canus perpallidus*, but I cannot see that these are even subspecifically separable from the European bird.

IYNX, Linn., 1746.

656. Wryneck.

IYNX TORQUILLA.

Iynx torquilla (Linn.), Syst. Nat. i. p. 172 (1766); (Naum.), 5, p. 356, Taf. 138, figs. 1, 2; Hewitson, i. p. 242, pl. lxii. fig. 1; (Gould), B. of E. iii. pl. 233; (id.), B. of Gt. Brit. iii. pl. 76; Newton, ii. p. 487; Dresser, v. p. 103, pl. 289; David and Oust. Ois. Chine, p. 55; Hargitt, Cat. B. Br. Mus. xviii. p. 560; (Tacz.) F. O. Sib. O. p. 727; Blanf. F. Brit. Ind. Birds, iii. p. 78; Saunders, p. 271; Lilford, ii. p. 12, pl. 5; Seebohm, B. Jap. Emp. p. 157.

Torcol ordinaire, French; *Papa-formigas*, Portug.; *Torcecuello*, Span.; *Torcecollo*, Ital.; *Wendehals*, German; *Draaihals*, Dutch; *Vendehals*, Dan. and Norweg.; *Göktyta*, Swed.; *Käen-piika*, Finn.; *Vertigolovka*, Russ.; *Gardan eyengtha*, Hind.; *Meda nulingadu*, Tam.

♂ *ad.* (England). Upper parts greyish, washed with brown, barred and finely vermiculated and marked with brown and black, the nape, middle of the back, scapulars, and inner secondaries broadly striped with blackish; quills externally barred with warm buff; tail minutely vermiculated and pencilled with blackish, and having five to six distinct blackish brown bars; under parts buffy white, the middle of the abdomen nearly clear white; throat and upper breast marked with blackish brown bars, which towards the abdomen become arrow-headed in shape; flanks and tail-coverts barred with blackish; a blackish brown stripe passes through the eye to the nape, and above this is a buffy white line; bill dull brown; legs yellowish brown; iris hazel. Culmen 0·58, wing 3·4, tail 2·7, tarsus 0·75 inch. The female resembles the male, but is rather duller in colour, and the young bird has the under parts more strongly marked with blackish brown.

Hab. Europe generally up to about 63° N. lat., above which it is rare; not found in Lapland; migrating to Africa, south to Kordofan and Senegal; Asia, north to Kamchatka, east to Japan; in winter ranging south to the plains of Burma and India.

Though this bird has the feet of a Woodpecker, its tail is not stiff like those birds', and it but seldom climbs about the trees like them. It has a habit of elongating and twisting its neck in a curious way, and when disturbed in its nest-hole utters a loud hissing sound like the note of a snake. Its usual note is a loud *qui, qui, qui* uttered quickly, many times in succession, but except during the breeding season it is a silent

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bird. Its flight, when continued any distance in the open, consists of a succession of bow-shaped lines. It feeds on insects of various kinds, especially on ants, darting and withdrawing its long tongue, when collecting them, with almost lightning velocity. It breeds in the hole of a tree, not making one for itself but selecting any suitable one, and in May deposits on the bare wood or on the chips at the bottom of the hole 7 to 9 and even 12 glossy white eggs, which measure about 0·84 by 0·67.

ALCEDO, Linn., 1766.

657. THE KINGFISHER.

ALCEDO ISPIDA.

Alcedo ispida, Linn. Syst. Nat. i. p. 179 (1766); Naum. v. Taf. 84, figs. 1, 2; Hewitson, i. p. 255 pl. liv. fig. 1; Gould, B. of E. ii. pl. 61; id. B. of Gt. Brit. ii. pl. 10; Newton, ii. p. 443; Dresser, v. p. 113, pl. 290; Sharpe, Cat. B. Br. Mus. xvii. p. 141; Blanf. F. Brit. Ind. Birds, iii. p. 122; Seebohm, B. Jap. Emp. p. 175; Saunders, p. 279; Lilford, ii. p. 14, pl. 6; *A. bengalensis*, Gmel. Syst. Nat. i. p. 450 (1788); David and Oust. Ois. Chine, p. 74; Tacz. F. O. Sib. O. p. 194.

Martin-pêcheur, French; *Guarda-rios*, Portug; *Martin-pescador*, Span.; *Piombina*, Ital.; *Gemeiner Eisvogel*, German; *Ijsvogel*, Dutch; *Isfugl*, Norweg. and Dan.; *Kungsfiskare*, Swed.; *Zemorodok*, Russ.: *Chotakilkila*, Hindu.; *Khandu*, Mahratta; *Dane-nyin*, Burm.; *Kawasemi*, Jap.; *Kandil-el-behar*, Moorish; *Tur-el-achdar*, Arab.

♂ *ad.* (England). Crown crested, dark green, barred with rich blue; upper back and scapulars green, but the lower back, rump, and upper tail-coverts rich cobalt blue; tail deep, almost indigo blue; greater wing-coverts tipped with rich cobalt blue; space before the eye and earcoverts light chestnut; from the base of the mandible to the sides of the breast a dark green line barred with blue; chin, throat, and a patch on each side of the neck white tinged with fulvous; rest of the under parts rich chestnut; bill black, but orange at the base below; legs deep reddish; iris brown. Culmen 1·7, wing 2·95, tail 1·5, tarsus 0·3 inch. The female differs only in being rather greener, and the young bird is darker and duller, has the bill shorter and all black, the legs blackish grey tinged with red.

Hab. Europe generally, north to Gefle in Sweden, but not found in Finland; North Africa, Madeira, and the Canaries; Asia north to Lake Baikal, east to Corea and Japan, south to N. China; Burma, Sind, Baluchistan, and Persia.

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Frequents rivers, brooks, and ponds where the banks are wooded, and at some seasons the sea-coast. It affects shady places, perching on a branch, stump, or stone, close to or overhanging the water where it can watch for its prey, and when disturbed it darts out and skims along the stream at lightning speed, uttering its shrill cry, *tcet, tcet, tcet.* It feeds on small fish, which it captures by dropping into the water like a stone, water-insects and crustaceans. It excavates its nest-hole in a bank, or sometimes uses a rat's hole, and at the end enlarges it into an oval chamber where, on the bare soil or on the fishbones and castings, it lays in April, May, or June, its 5 to 7 glossy white, roundish-oval eggs, which measure about 0·85 by 0·75.

CERYLE, Boie, 1828.

658. PIED KINGFISHER.

CERYLE RUDIS.

Ceryle rudis (Linn.), Syst. Nat. i. p. 181 (1766); Gould, B. of E. ii. p. 62; Dresser, v. p. 125, pl. 291; Sharpe, Monogr. Alced. p. 61, pl. 19; id. Cat. B. Br. Mus. xvii. p. 109.

Saiad-el-semahk, Arab.

♂ *ad.* (Asia Minor). Upper parts black, marked and varied with white; crown crested; a white superciliary line to the hind-neck; tail white spotted with black on the basal two-thirds, then black tipped with white; under parts white, the breast crossed by one broad and one narrow band; bill and legs black; iris brown. Culmen 2·3, wing 5·55, tail 3·6, tarsus 0·45 inch. The female differs in having only one pectoral band, and the young bird resembles the female, but has the upper parts blacker, the feathers on the throat with faint blackish tips, and the pectoral band is greyish margined with black.

Hab. Rare in Greece; the Cyclades, Asia Minor, and Palestine, east to the Persian Gulf; Africa south to the Cape. In India and east to China it is replaced by a nearly allied species, *Ceryle varia*, Strickl., which has the base of the tail white, unspotted.

It is a heavier bird than *A. ispida*, its flight is not very swift, but direct and steadied by regular beats of the wings. It frequents both inland waters and the sea-coast, and is gregarious at all seasons. It breeds from April to late in May, burrowing its nest-hole in a bank close to the edge of the water, and the nest-cavity is a hole scooped in the side of the nest tunnel. Its eggs, 4 to 6 in number, are not so polished as those of *A. ispida*, pure white and larger, measuring about 1·15 by 1.

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659. Himalayan Pied Kingfisher.

CERYLE LUGUBRIS.

Ceryle lugubris (Temm.), Pl. Col. 548 (1834); Sharpe, Monogr. Alced. p. 49; id. Cat. B. Br. Mus. xvii. p. 115; Blanf. F. Brit. Ind. Birds, iii. p. 121; Bianchi and Berez. Ptitz. Gan-su, p. 46; *C. guttata* (Vigors), P.Z.S. 1830, p. 22 (nec. Bodd); Gould, Cent. Himal. B. pl. 5; Sharpe, Monogr. Alced. p. 57, pl. 18; Seebohm, B. Jap. Emp. p. 174.

Mashi-Bágh, Hindu.; *Jel. butara*, Chamba: *Ung-ka-zhu*, Lepch.; *Kawa-chō*, Jap.

♂ *ad.* (Japan). Head to below the eyes with crest black, spotted and marked with white; a broad collar; cheeks and under parts white; upper parts, wings, and tail black, or greyish black, barred and spotted with white; a stripe down the sides of the throat and a broad gorget of black spots, tinged on the wider portions with rufescent brown; flanks and under tail-coverts barred or spotted with blackish; bill black, greenish at the base; legs olive-green; iris dark brown. Culmen 2·8, wing 7·4, tail 4·2, tarsus 0·5 inch. The female lacks the rufous on the throat or gorget, and has rufescent brown under wing-coverts and axillaries.

Hab. The Himalayas west to Kashmir to an elevation of 7000 feet, also in the hills south of Assam and those of Tenasserim, but not recorded from the intervening country; South-east Kan-su; Central China; Japan, resident in the southern islands, but a partial migrant in Yesso.

Extremely shy and wild, it is difficult of approach, and is usually seen in pairs. It sits on a bush or bough overhanging the water in shady places, watching for fish on which it feeds entirely. It has two notes, one like the other Kingfishers', but less quickly repeated, the other a guttural croak which serves as a call-note. It breeds from April to June, excavating a nest-chamber at the end of a hole about 2 feet long, and deposits 3 to 4 roundish glossy white eggs of great size.

HALCYON, Swains., 1820.

660. Ruddy Kingfisher.

HALCYON COROMANDUS.

Halcyon coromandus (Lath.), Ind. Orn. i. p. 252 (1790); Sharpe, Monogr. Alced. p. 155, pl. 57; id. Cat. B. Br. Mus. xvii. p. 217; Seebohm, B. Jap. Emp. p. 173; (David and Oust.) Ois. Chine, p. 76; *H. lilacina*; Swains, Classif. of B. ii. p. 335 (1837); Blanf. F. Brit. Ind. Birds, iii. p. 134.

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Kio-roro, Jap.

♂ *ad.* (India). Upper parts with sides of the head and neck, wings and tail light chestnut, glossed with violet-red; middle of the lower back and rump white mixed with pale blue, or sometimes with violet; under parts cinnamon buff, paler on the throat and middle of the abdomen, and becoming pale buff on the chin; bill red, blackish at the base; legs brownish red; iris blue grey. Culmen 2·3, wing 4·4, tail 2·6, tarsus 0·5 inch. The female is duller and browner in colour, and the young bird has dark edges to the breast-feathers.

Hab. Eastern Himalayas, China, Corea, Japan, Java, Sumatra, and the Philippines.

Inhabits forests, and not unfrequently mangrove swamps near the coast, and is shy in its habits. It is said to be very noisy in rainy weather when its mournful cry *kīo-roro* may be heard at a long distance. Respecting its food and nesting habits I find nothing on record.

661. Smyrna Kingfisher.

HALCYON SMYRNENSIS.

Halcyon smyrnensis (Linn.), Syst. Nat. i. p. 181 (1766); Sharpe, Monogr. Alced. p. 161, pl. 59; Dresser, v. p. 133, pl. 292; Sharpe, Cat. B. Br. Mus. xvii. p. 222; Blanf. F. Brit. Ind. Birds, iii. p. 132; *H. fusca* (Bodd), Tabl. Pl. Enl. p. 54 (1783); Jerdon, B. of Ind. i. p. 224; *H. saturatior*; Hume, Str. Feath. ii. pp. 168, 531 (1874).

Jeshil Balukdje, Turkish; *Kilkila*, Hindu.; *Khandu*, Mahr.; *Pelihudawa*, Cing.; *Dane-nyin*, Burm.

♂ *ad.* (Asia Minor). Head, neck, sides of breast, and under parts below the breast rich chestnut-red; back, scapulars, outer web of secondaries, and upper surface of the tail deep cobalt blue, with a faint greenish tinge; rump and upper tail-coverts deeper cobalt; base of primaries white, the rest black, the outer webs blue; larger wing-coverts dark blue, median coverts black, edged with bluish, the lesser chestnut; throat and breast pure white; bill coral-red; legs vermilion; iris brown. Culmen 2·4, wing 5·2, tail 3·7, tarsus 0·7 inch. Sexes alike.

Hab. Cyprus, Asia Minor, Palestine, Arabia, Persia; the whole of India; Burma; Ceylon; the Malay Peninsula, Cochin China, and Southern China.

In its habits it is shy and solitary, and will sit for hours on an elevated perch, and is to be found near water or away from it in the open jungle. Its note is harsh and discordant,

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and is always uttered in flight. Unlike *Alcedo* and *Ceryle*, it does not feed on fish, but on frogs, toads, lizards, snakes, and locusts, &c. It burrows a tunnel in a bank with an enlarged nest-chamber at the end, and late in April or early in May lays 4 to 7 eggs, which are glossy white, round in shape, and average 1·13 by 1·03 in size.

662. Black-capped Kingfisher.

HALCYON PILEATUS

Halcyon pileatus (Bodd), Tabl. Pl. Enl. p. 41 (1783); Sharpe, Monogr. Alced. p. 169, pl. 62; id. Cat. B. Br. Mus. xvii. p. 229; (David and Oust.), Ois. Chine, p. 75; Blanf. F. Brit. Ind. Birds, iii. p. 133; (Tacz.), F. O. Sib. O. p. 193; *H. atricapilla*, (Gmel.), Syst. Nat. i. p. 453 (1788); Gould, B. of Asia, i. pl. 45.

♂ *ad.* (India). Crown, nape, and sides of the head black; a broad white collar passes round the neck, followed by a blackish band; upper parts generally deep blue, the lower back and rump brighter; primaries white at the base, black otherwise, the outer webs lilac and blue; tail deep blue on the upper, and black on the under surface; a few feathers below the eye, chin, throat, and middle of the breast white; rest of the under parts with the sides of the throat and breast rich rufous buff; bill deep red; legs dark red; iris dark brown. Culmen 2·45, wing 5, tail 3·3, tarsus 0·6 inch. Sexes alike. The young birds have black spots on the sides of the throat, and the breast-feathers dark-margined.

Hab. Southern India, rare in Ceylon; Indo-Malayan countries and islands south to Celebes; Siam, Cambodia, China, and Corea.

Inhabits brackish creeks and mango swamps chiefly on or near the salt water, but is occasionally seen on fresh water streams. Extremely shy and wary it is not easy to procure specimens. Its note is said to be a shrill discordant cry, and has been likened to that of *Dendrocopus major*. It feeds chiefly on crabs, but also on fish. Respecting its nesting habits I find nothing on record.

CORACIAS, Linn., 1766.

663. Roller.

CORACIAS GARRULUS.

Coracias garrulus, Linn. Syst. Nat. i. p. 159 (1766); Naum. ii. p. 168, Taf. 60; Hewitson i. p. 253, pl. lxiv. fig. 3; Gould, B. of E. ii. pl. 60; id. B. of Gt. Brit. ii. pl. 11; Newton, ii. p. 428; Dresser, v. p. 141, pl. 293; id. Monogr. Corac. p. 19, pl. vii.; Sharpe, Cat. B Br. Mus. xvii. p. 15; Blanf. F. Brit. Ind. Birds, iii. p. 106; Saunders, p. 281; Lilford, ii. p. 17, pl. 8.

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Rollier vulgaire, French; *Rollieiro*, Portug.; *Carlanco, Carranco*, Span.; *Ghiandaja marina*, Ital.; *Blauracke, Mandelkrähe*, Germ.; *Racke*, Dutch; *Ellekrage*, Dan.; *Blaakraake*, Norw.; *Blåkråka*, Swed.; *Sininärhi*, Finn.; *Civovoronka*, Russ.; *Chalkoroni*, Greek; *Alla-Karga*, Turk.; *Sharrakak*, Moor.; *Shugurug*, Arab.; *Subz-Kullag*, Pers.; *Nila-Kras*, Kashm.; *Sheen-Tootee*, Pushtoo.

♂ *ad.* (Spain). Head, hind-neck, and under parts pale blue tinged with green, darker on the head and throat, paler on the abdomen; forehead and chin hoary white; back, scapulars, and inner secondaries cinnamon brown; least wing-coverts, rump, and upper tail-coverts rich ultramarine; quills blackish, but light blue at the base; outer primaries externally glossed with deep blue; middle tail-feathers dull greenish blue, the rest dull blue, lighter towards the end; the outermost blackish at the tip; throat striped with silvery blue; bill black; legs yellowish brown; iris brownish grey. Culmen 1·3, wing 7·7, tail 5·0, tarsus 0·95 inch. Sexes alike, but the young are duller and browner.

Hab. Europe generally to 60° N. Lat.; accidental in England and Scotland; Africa in winter, south to the Cape Colony; Asia east to Western Siberia and Central Asia; India in Sind and the Punjab, and east to Khandesh, Ahmedabad, the Satpura Hills, Mussooree, and Garhwál.

Frequents woods and bush-covered plains, and is restless and uneasy. Its flight is quick and easy, and it has a habit of turning over or rolling on the wing like some Pigeons. Its note is a deep, harsh, *racker-racker-racker*, and a plaintive high *kräh*. Its food consists of various kinds of insects, worms, and small frogs, and it is also said to eat figs. It breeds in hollow trees, holes in walls, or even in holes in river banks, constructing a nest of roots and straws lined with hair or feathers, and in April, May, or June, according to latitude it deposits 4 to 5 pure white glossy, roundish eggs which average about 1·42 by 1·12.

664. Indian Roller.

CORACIAS INDICUS.

Coracias indicus, Linn. Syst. Nat. i. p. 159 (1766); Gould, B. of As. i. pl. 54; Dresser, v. p. 149, pl. 294; id. Monogr. Corac. p. 27, pl. viii.; Sharpe, Cat. B. Br. Mus. xvii. p. 10; Blanf. F. Brit. Ind. Birds, iii. p. 103; *C. bengalensis*, Linn. Syst. Nat. i. p. 159 (1766).

Nilkant, sabzak, Hindu.; *Tas*, Mahr.; *Pálú-pitta*, Tel.; *Kattukadei*, Tam.; *Doong-kowluwa*, Cingal.

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♂ *ad.* (India). Forehead and chin rufous buff; crown and nape rich blue green; sides of and hind-neck deep vinous; back scapulars and innermost secondaries greenish brown; rump greenish blue; upper tail-coverts ultramarine; quills pale greenish blue, the primaries with an ultramarine central band, and tipped with blackish blue, the secondaries with terminal portion rich ultramarine; larger wing-coverts greenish blue, the lesser ultramarine; middle tail-feathers deep green, the rest ultramarine on the basal and terminal portions, otherwise pale blue; throat and upper breast vinous purple striped with creamy buff; lower breast rufous buff; rest of under parts greenish blue; bill blackish, but reddish at the base below; legs dusky orange yellow; iris yellowish grey, with a reddish brown inner circle, orbital skin and eyelid dull orange yellow. Culmen 1·3, wing 7·2, tail 5·3, tarsus 1·0 inch. Sexes alike.

Hab. India and Ceylon east to Calcutta, west through Baluchistan to Muscat on the Persian Gulf; Asia Minor, and of accidental occurrence in Turkey; a taxidermist's specimen is said to have been obtained in England.

In habits it does not seem to differ from *C. garrulus*, and like that bird, it breeds in hollow trees, in holes in walls, and even under the eaves of bungalows, sometimes making no nest, and at others forming a sort of nest of tow, old rags, grasses, and feathers, and from March to July according to locality depositing 3 to 5 pure white eggs like those of *C. garrulus*, which average 1·39 by 1·13.

EURYSTOMUS, Vieill., 1816.

665. Indian Broadbill.

EURYSTOMUS ORIENTALIS.

Eurystomus orientalis (Linn.), Syst. Nat. i. p. 159 (1766); David and Oust. Ois. Chine, p. 72; Sharpe, Cat. B. Br. Mus. xvii. p. 33, pl. ii. fig. 1; Dresser, Monogr. Corac. p. 67, pls. xvii. xviii.; Blanf. F. Brit. Ind. Birds, iii. p. 107; Tacz. F. O. Sib. O. p. 189; *C. calonyx*, Hodgs. Icon. Ined. in Brit. Mus.; *Passeres*, pls. 10, 11; id. in Gray's Zool. Misc. p. 82 (1844); Sharpe, op. cit. xvii. p. 38; pl. ii. fig. 2; *E. lætior*, Sharpe, P.Z.S. 1890, p. 551; id. op. cit. xvii. p. 36.

Phoyiong-pho, Lepch. in Darjeeling; *Leuk-hotsvey*, Canton; *Tihong-lampay*, *Tjetje*, Malay.; *Lallie*, Born.; *Tiong Batu*, Sumatr.

♂ *ad.* (India). Upper parts deep bluish green, the crown and sides of the head nearly black, upper surface of wings lighter and bluer; quills blackish, margined with blue; a basal patch of silvery blue on the primaries; tail-feathers black, margined externally at the base with deep

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blue; throat deep blue, with lighter stripes; rest of the under parts greenish blue; bill, legs, and feet red, the tip of the bill black; iris dark brown or greyish brown. Gape 1·2, wing 7·3, tail 4·6, tarsus 0·75 inch. Sexes alike.

Hab. Eastern Asia from Amoorland to China; India from the Himalayas to Ceylon and the Andamans, Burma, Malacca, Java, Sumatra, Borneo, and the Philippines.

In its habits this bird is almost crepuscular, is essentially a forest-haunting species, and is as a rule shy and wary. Its flight resembles that of a Kingfisher, but it usually flies at a considerable altitude. Its call-note is a deep guttural *ka*, and its usual note a harsh Jay-like *kiak*, *kiak*. Its food is said to consist exclusively of insects of various kinds, which it either captures on the wing, or picks from off the ground. It makes its nest in a hollow tree, and in March deposits on the chips of rotten wood at the bottom of the hole three eggs which are broad ovals, pure white, faintly glossy, and measure from 1·34 to 1·42 in length, and 1·14 to 1·16 in breadth.

MEROPS, Linn., 1766.

666. Bee-eater.

MEROPS APIASTER.

Merops apiaster, Linn. Syst. Nat. i. p. 182 (1766); Naum. v. p. 462, Taf. 143, figs. 1, 2; Hewitson, i. p. 254, pl. lxiv. fig. 2; Gould, B. of E. ii. pl. 59; id. B. of Gt. Brit. ii. pl. 9; Newton, ii. p. 435; Dresser, v. p. 155, pl. 295; id. Monogr. Merop. p. 75, pl. 18; Sharpe, Cat. B. Br. Mus. xvii. p. 63; Blanf. F. Brit. Ind. Birds, iii. p. 113; Saunders, p. 283; Lilford, ii. p. 16, pl. 7.

Guêpier vulgaire, French; *Abelharuco*, *Melharuco*, Portug.; *Abejaruco*, Span.; *Gruccione*, Ital.; *Bienenfresser*, German; *Bicæder*, Dan.; *Biätare*, Swed.; *Tschur*, Russ.; *Mĕmuna*, Arab.; *El Leecamoon*, Moor.

♂ *ad.* (Spain). Head, neck, and upper back deep chestnut, fading into pale chestnut on the lower back and rump, and into isabelline on the scapulars; forehead and supercilium white tinged with blue green; upper surface of wings green, the wing-coverts chestnut; upper tail-coverts pale green; tail greenish grey, the middle feathers elongated and tinged with olive; a line below the eye enclosing the ear-coverts, and another across the lower throat deep black; chin, throat, and cheeks golden yellow; rest of the under parts greenish cobalt, paler behind; bill black; legs pale reddish brown; iris carmine red. Culmen 1·6, wing 6·1, tail 5·0, tarsus 0·4 inch. Female similar but duller.

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Hab. Southern Europe, rarer in the central and northern parts; of accidental occurrence in Scandinavia, Great Britain, and Ireland; Canaries, Madeira, and Africa; Asia Minor and Asia as far east as the Punjab, Baluchistan, and Sind, and the Irtish river in the north.

Gregarious at all seasons and frequents rivers and plains. In its flight it resembles the Swallow, but is not so active and swift. It feeds on insects of various kinds, bees, wasps, grasshoppers, locusts, beetles, &c., which it both captures on the wing and picks off trees, bushes, and plants. It usually breeds in the banks of rivers or streams, but sometimes far from water, and burrows a long round hole ending in a chamber about a foot in diameter. I have found their nest-holes burrowed in flat ground away from water. The eggs 5 to 6 in number are usually deposited in May or June, and are placed on the refuse in the nest-chamber, no nest being made. The eggs are roundish, pure glossy white, and measure about 1·2 by 0·9. The usual cry of this bird is harsh and monotonous, but when on the wing it utters a pleasant, subdued, warbling chirp.

667. Blue-cheeked Bee-eater.

MEROPS PERSICUS.

Merops persicus, Pall. Reis. Russ. Reichs, ii. Anhang. p. 708 (1773); Dresser, v. p. 165, pl. 296; id. Monogr. Merop. p. 63, pl. xvi.; Sharpe, Cat. B. Br. Mus. xvii. p. 66; Blanf. F. Brit. Ind. Birds, iii p. 112; *M. ægyptius*, Forsk, Descr. Anim. Aves, p. 1 (1775); Shelley, B. Egypt, p. 170, pl. vii. fig. 1; *M. savignyi*, Audouin expl. somm. p. 371 (1825).

Guêpier d'Égypte, French; *Gruccione forestiero*, Ital.

♂ *ad.* (Egypt). Forehead white passing into blue; supercilium blue; upper parts with wings parrot green, tinged with blue on the upper tail-coverts, and with russet on the wings and tail; a broad black stripe passes from the gape through the eye to the ear, and is margined with white and then blue, passing to green on the cheeks; chin dark yellow; throat fox-red; rest of under parts parrot green; bill black; legs dark brown; iris crimson. Culmen 1·9, wing 6·25, tail 5·3, middle feathers extending 1·62 beyond the lateral ones, tarsus 0·5 inch. Sexes alike.

Hab. Of rare occurrence north of the Mediterranean; Africa south to Cape Colony; Asia north to Gurieff in Russia, south to the plains of India, and east to the Bombay Deccan.

In habits, note, food, and nidification, it does not differ from *M. apiaster*, and its eggs are also similar.

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668. GREEN BEE-EATER.

MEROPS VIRIDIS.

Merops viridis, Linn. Syst. Nat. i. p. 182 (1766); Shelley, B. of Egypt, p. 171; Dresser, v. p. 171, pl. 297; id. Monogr. Merop. p. 31, pls. viii, ix.; Sharpe, Cat. B. Br. Mus. xvii. p. 78; Blanf. F. Brit. Ind. Birds, iii. p. 110; *M. viridissimus*, Swains. B. W. Afr. ii. p. 82 (1837).

Patringa, *Harrial*, Hindu.; *Kurumenne-Kurulla*, Cing.; *Hnet-pasin-to*, Burm.

♂ *ad.* (Egypt). Upper parts, wings, and tail bright green, under parts similar but duller; crown and nape tinged with rufescent golden, the lower back, rump, scapulars, and inner secondaries, with blue green; quills rufous on the inner webs, and tipped with black; tail-feathers dusky rufescent on the inner webs, the middle feathers much elongated; a band through the eye and gorget black; a line below the eye-band bright blue; throat and abdomen tinged with blue; bill blackish; legs dull plumbeous; iris crimson. Culmen 0·95, wing 3·65, lateral tail-feathers 2·95, the middle ones 5·35, tarsus 0·45 inch. Sexes alike. Specimens from India have the throat bluer, and those from Burma have the head ferruginous.

Hab. North-eastern Africa and Senegambia north to Palestine; in Asia through Persia to India, Ceylon, Burma, Siam, and Cochin China.

In habits, note, and food, this species does not differ from its allies. Its nest-hole, which is from 3 to 7 feet in length with a globular chamber at the end, is tunnelled in a bank, or sometimes on level ground, and from March to May its 4 to 6 eggs are deposited on the bare ground. These are glossy white, roundish in form, and in size average about 0·76 by 0·68.

UPUPA, Linn., 1766.

669. HOOPOE.

UPUPA EPOPS.

Upupa epops, Linn. Syst. Nat. i. p. 183 (1766); Naum. v. p. 437, Taf. 142, figs. 1, 2; Hewitson, i. p. 249, pl. lxiii. fig. 3; Gould, B. of E. iii. pl. 238, id. B. of Gt. Brit. ii. pl. xii; Newton, ii. p. 419; Dresser, v. p. 179, pl. 298; Salvin, Cat. B. Br. Mus. xvi. p. 4; Blanf. F. Brit. Ind. Birds, iii. p. 159; Seebohm, B. Jap. Emp. p. 159; Saunders, p. 285; Lilford, ii. p. 20, pl. 9.

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Huppe vulgaire, French; *Poupa*, Portug.; *Abubilla*, Span.; *Bubbola*, Ital.; *Wiedehopf*, Germ.; *De Hop*, Dutch; *Hærpop*, Dan.; *Hærfugl*, Norw.; *Härfogel*, Swed.; *Ydod*, Russ.; *Hudhud*, Pers. and Hind.; *Sutár*, Mahr.; *Katkuto*, Sind.

♂ *ad.* (Spain). Head with a large crest, tawny in colour, the feathers tipped with black, the hinder ones with a subterminal white band; face, neck, and breast vinous cinnamon; upper back greyish brown; middle of back and scapulars black barred with pale isabelline; rump pure white; quills black, the wings barred black and white; upper tail-coverts black, margined with isabelline; tail black with a broad white band across the middle; abdomen whitish, the flanks striped with brown; bill black, but fleshy pink at the base below; legs dusky brown; iris pale brown or reddish brown. Culmen 2·3, wing 5·5, tail 3·8, tarsus 0·85 inch. Sexes alike.

Hab. Southern and Central Europe, straying north to Scandinavia, Great Britain (where it has nested), and Ireland; Africa, wintering in N. E. Senegambia and N. E. Africa; Arabia; Asia east to the plains of India and Assam; Manchuria, China, and has once been obtained in Japan. It has also once been recorded as far north as Spitsbergen.

Frequents plains and open country, either cultivated or waste, and is often seen near villages, or inhabited places. Though sprightly and active it is very shy and wary, and is generally to be seen on the ground. Usually its crest is closed, but when alarmed or excited it is erected and spread. Its note is a deep *hoop, hoop*. Its food consists of insects of various kinds, their larvæ, worms, &c., which it obtains on the ground. It places its scanty nest, which is usually made of grass, feathers, and a few twigs, in the hollow of a tree, a hole in a wall or rock, or under a stone, and in May or June deposits 5 to 7 eggs, which when freshly laid are pale greenish blue, but soon become stained and dirty and fade to dull dirty yellow. In size they average about 1·04 by 0·68. The nest soon becomes foul and dirty, and after the young are hatched it is intolerably filthy and malodorous.

CUCULUS, Linn., 1766.

670. Cuckoo.

CUCULUS CANORUS.

Cuculus canorus, Linn. Syst. Nat. i. p. 168 (1766); Naum. v. p. 196, Taf. 127, 128, 129; Hewitson, i. p. 251, pls. xiii. figs. 1, 2; Gould, B. of E. iii. pl. 240; id. B. of Gt. Brit. iii. pls. 67, 68; Newton, ii. p. 387; Dresser, v. p. 199, pl. 299; David and Oust. Ois. Chine,

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p. 64 ; Shelley, Cat. B. Br. Mus. xix, p. 245 ; Blanf. F. Brit. Ind. Birds, iii. p. 205 ; Tacz. F. O. Sib. O. p. 685 ; Saunders, p. 287 ; Seebohm, B. Jap. Emp. p. 169 ; Lilford, ii. p. 21, pl. 10 ; *C. hepaticus*, Sparrm. Mus. Carls. p. 55 (1789).

Coucou gris, French ; *Cuco*, Portug. ; *Cucu*, Span. ; *Cuculo*, Ital. ; *Kuckuk*, German ; *Koekoek*, Dutch ; *Gjög*, Dan. ; *Gjök*, Norweg. ; *Gök*, Swed. ; *Käki*, Finn. ; *Kiekka*, Lapp. ; *Kukushka*, Russ. ; *Takouk*, Moor. ; *Tāgug*, Arab. ; *Phuphu*, Hindu. ; *Kukku* Lepch. ; *Kakko*, Jap.

♂ *ad.* (England). Upper parts dark bluish ash, paler on the head and bluer on the rump and upper tail-coverts ; quills ashy brown barred with white on the inner web ; tail graduated, blackish, spotted and tipped with white ; throat and upper breast pale ashy blue ; rest of the under parts white barred with blackish ; bill blackish horn, at the base and along the edge yellowish ; gape orange yellow ; legs and iris yellow. Culmen 0·9, wing 8·35, tail 7·0, tarsus 0·92 inch. Sexes alike. The young bird is deep clove-brown above, barred with pale rusty brown, the feathers mostly tipped with white, and a white spot on the nape ; quills dark brown barred with ferruginous and tipped with white, the inner webs barred with white ; tail clove-brown barred with ferruginous and spotted and tipped with white ; under parts buffy white, warmer in tinge on the abdomen, and barred with blackish. A peculiar hepatic plumage, much more rufous than that of the young bird is not seldom retained over the first year.

Hab. All Europe up to, or a little beyond the Arctic Circle ; Africa as far south as Natal and Damaraland ; Madeira ; Canaries ; Asia from lat. 67° N. south to Celebes and east to Japan. It breeds in the northern and central portions of its range, wintering in the south.

In its general habits it is wild and shy, and is but seldom seen though so often heard. On the wing it resembles a Hawk, and is tolerably swift, but on the ground it is ungainly, progressing by means of short hops. The well-known call is uttered by the male, and the note of the female is a laughing *Quickwickwick* preluded by a low, harsh sound. Its food consists almost exclusively of insects of various kinds, especially of hairy caterpillars, but it also eats small snails and even seeds.

Much has been written on the breeding of the Cuckoo, but I may briefly remark that this species does not pair, and that the female has indiscriminate intercourse with several males. The egg is probably laid on the ground and the female takes it in her bill and places it in the nest of the bird she has selected as a foster-parent. The eggs vary considerably in colour and

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markings but it seems that each female produces regularly eggs similar in appearance, and probably, if possible, selects the same species as foster-parent for her offspring as has been the foster-parent to herself, but this has scarcely yet been proved to be the case. When hatched, the young Cuckoo soon ejects the eggs or young of its foster-parent from the nest. A female is said to produce as many as 20 eggs in the season, and generally one but sometimes two, the produce of different birds, are placed in the same nest. As above stated, the eggs differ considerably in appearance, and greenish-blue varieties have been found, but as a rule the usual colours are greyish green or greyish rufous, mottled and spotted with various shades of brown, and in size average 0·88 by 0·65, and they are as a rule very close grained in the shell and proportionately heavy. Many species of birds in whose nests Cuckoos' eggs have been found are enumerated by different authors, and Dr. Rey gives a list of 146 of such.

671. Himalayan Cuckoo.

CUCULUS SATURATUS.

"*Cuculus saturatus*, Hodgs." Blyth. J. A. Soc. B. xii. p. 942 (1843); Blanf. F. Brit. Ind. Birds, iii. p. 207; id. P.Z.S. 1893, p. 319; Tacz. F. O. Sib. O. p. 689 (nec. Drap.); *C. himalayanus*, Jerd. B. of Ind. i. p. 323; (1862 nec. Vig.); *C. intermedius*, Shelley, Cat. B. Br. Mus. xix. p. 252 (1891 nec. Vahl.)

Tong-ting vyang, Lepch.; *Tsu-tsu-dori*, Jap.

♂ *ad.* (India). Differs from *C. canorus* in being somewhat smaller and having a somewhat stouter bill; the upper parts are much darker, the under parts are more tinged with buff, and the black bands are broader; the edge of the wings is also pure white. Culmen 0·7, wing 7·2, tail 6·0, tarsus 0·75 inch.

Hab. E. Persia; India, but rare south of the Himalayas; Eastern Siberia, ranging tolerably far west; Kamchatka; Japan; China; in winter ranging south through Burma, and the Malay peninsula to New Guinea and Australia.

Resembles *C. canorus* in general habits, but its cry is a deep *hoo, hoo* uttered several times in succession; like *C. canorus* it is parasitic, and its eggs have been found in the nests of *Trochalopterum lineatum, Pratincola caprata, Cettia cantans*, and *Anthus trivialis*. According to Taczanowski they are pale greyish, marked with numerous irregular pale violet shell-spots, and brown surface-spots or blotches, which are more numerous round the larger end, and measure 0·92 by 0·69.

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672. Greyheaded Cuckoo.

CUCULUS POLIOCEPHALUS.

Cuculus poliocephalus, Lath. Ind. Orn. i. p. 214 (1790); Gould, Cent. B. Himalay. pl. 54; Shelley, Cat. B. Br. Mus. xix. p. 255; Blanf. F. Brit. Ind. Birds, iii. p. 208; Tacz. F. O. Sib. O. p. 693; *C. bartletti*, Layard, Ann. and Mag. Nat. Hist. 2nd. ser. xiii. p. 452 (1854).

Dang-hlem, Lepch.; *Pichu-giapo*, Bhotia; *Hototigisu*, Jap.

ad. (Japan). Resembles *C. canorus* but is considerably smaller, the upper parts are darker, the abdomen and under tail-coverts are warm buff and the black bars on the breast are broader; bill blackish horn; the base of the lower mandible, gape, eyelid, and feet yellow; iris brown. Culmen 0·75, wing 6·0, tail 5·0, tarsus 0·6 inch. Sexes alike. The young resemble those of *C. canorus* but are darker.

Hab. Himalayas, N. China, and Japan in summer, wintering in India, Ceylon, the Malay Peninsula, Java, and Borneo; Africa south of 6° N. Lat., and Madagascar (*C. rochi*).

This Cuckoo frequents the outskirts of forests, especially where there are old trees, and is very shy. Its note differs greatly from that of the other Cuckoos, and is often uttered at night. It consists of an unmusical call of several syllables, and is often heard, as it is a noisy bird. In general habits, food, and mode of nidification it resembles *C. canorus*, but its eggs are not yet known with certainty.

673. Indian Cuckoo.

CUCULUS MICROPTERUS.

Cuculus micropterus, Gould, P.Z.S. 1837, p. 137; David and Oust. Ois. Chine, p. 64; Shelley, Cat. B. Br. Mus. xix. p. 241; Blanf. F. Brit. Ind. Birds, iii. p. 210; *C. striatus*, Gray, Cat. Mamm. etc. Nepal (1846); Seebohm, Ibis, 1878, p. 327.

Boukotako, Beng.; *Takpo*, Lepch.; *Kankatong*, Bhot.

♂ *ad.* (Burma). Upper parts dark brown, the head, neck, and sides of the latter merging into dark grey; quills with white bars on the inner webs; tail rather paler than the back, with a broad subterminal black band tipped with white, and with white and black marks along the shafts of the feathers; throat and breast pale ashy; rest of the under parts creamy white barred with black; bill blackish horn above, dull green below;

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gape and legs yellow; iris rich brown, eyelids greenish plumbeous, the edges deep yellow. Culmen 1·0, wing 8·1, tail 6·3, tarsus 0·8 inch. The female differs only in having the throat and breast browner.

Hab. The Himalayas, China, Japan, India, and Ceylon, ranging through the Burmese provinces to Malacca, Java, Sumatra, Borneo south to the Moluccas. It does not appear to occur in Siberia.

In its general habits it resembles *C. canorus*, but its call-note is a fine melodious whistle resembling the syllables *la-sol-sol-mi*, and is only heard during the day. It is extremely wild and shy and frequents the plains and bush-covered low hills. Its eggs appear to be as yet unknown.

COCCYSTES, Gloger, 1842.

674. Great Spotted Cuckoo.

COCCYSTES GLANDARIUS.

Coccystes glandarius (Linn.), Syst. Nat. i. p. 167 (1766); (Naum.) v. p. 237, Taf. 130, figs. 1, 2; (Gould), B. of. E. iii. pl. 241, (id.) B. of Gt. Brit. iii. pl. 69; (Hewitson), Ibis, 1859, pl. ii. figs. 1, 2 (eggs); Newton, ii. p. 408; Dresser, v. p. 219, pl. 300; Shelley, Cat. B. Br. Mus. xix. p. 212; Saunders, p. 289; Lilford, ii. p. 23, pl. 11.

Coucou-geai, French; *Cucu-rabilongo*, Portug.; *Cucu real*, Span.; *Cúculo Africano*, Ital.; *Heher-Kuckuk*, German; *Teir el Keber*, Moor.

♂ *ad.* (Spain). Head crested; crown and nape dull bluish grey, the shafts of the feathers black; upper parts dull earth-brown, in parts tinged with fulvous, the quills, wing-coverts, and some dorsal feathers tipped with white, the upper tail-coverts greyer and marked with white; tail much graduated, blackish brown, all but the two middle feathers white at the ends; under parts white, the breast and throat tinged with isabelline; bill blackish horn, yellowish at the base below; legs and feet dull plumbeous; iris dull brown. Culmen 1·05, wing 8·2, tail 9·5, tarsus 1·30 inch. Sexes alike. The young bird has the head blackish brown, not crested, and the basal two-thirds of the primaries are chestnut-red.

Hab. South-western and southern Europe, rarer in the east; an accidental visitant to central Europe and the British Islands; Africa, as far south as the Cape Colony in winter; Western Asia as far east as Persia.

In its general habits it resembles *C. canorus*, and is quite as wild and shy; its flight is steady and rather dipping, and its long tail makes it easily recognizable. Its call-note is a loud

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kee-ou, kee-ou, and when alarmed a grating *cark, cark*, and that of the female *burroo, burroo*. Its food consists of insects of various kinds, chiefly caterpillars. Like its allies it is parasitic, and in the Iberian Peninsula places its eggs in the nests of the Magpie, Blue-winged Magpie, and occasionally the Raven, in Algeria in those of the Moorish Magpie, and in North-East Africa in those of the Hooded Crow and *Corvus affinis*; not unfrequently two or even four Cuckoo's eggs are found in the same nest. The eggs are more elliptic in shape, smoother and closer in texture than those of the foster-parent, pale greenish blue in ground colour, spotted, dotted, and blotched with pale liver-brown and bright reddish brown, and in size average 1·28 by 0·96.

HIEROCOCCYX, S. Müller, 1839–44.

675. Hawk-Cuckoo.

HIEROCOCCYX SPARVEROIDES.

Hierococcyx sparveroides (Vigors), P.Z.S. 1831, p. 173; (Gould), Cent. Himal. B. pl. 53; (David and Oust.), Ois. Chine, p. 63; Shelley, Cat. B. Br. Mus. xix. p. 232; Blanf. F. Brit. Ind. Birds, iii. p. 211; Tacz. F. O. Sib. O. p. 694; *H. strenuus* (Gould), P.Z.S. 1856, p. 96; (id.) B. of Asia, vi. pl. 42.

Bara Bharao, Nepal.; *Nimbin-piyul*, Lepch.

♂ *ad.* (India). Crown, sides of head, hind-neck, and chin slate-grey; upper parts generally rich brown, the quills barred with white on the inner webs; tail greyish brown, with three narrowish and a broad terminal blackish brown bands, and narrowly tipped with brownish white; throat and upper breast striped with greyish brown and marked with rufous; rest of the under parts white, the lower breast, flanks and abdomen barred with blackish brown and more or less tinged with rufous; upper mandible dark brown, lower greenish; gape, orbit, iris, and legs yellow. Culmen 1·0, wing 9·1, tail 8·25, tarsus 1·1 inch. Sexes alike. The young bird has the upper parts brown, the feathers margined and faintly banded with rufous, the under parts reddish white streaked and spotted with dark brown.

Hab. The Himalayas, west to Chamba, east to the hills south of Assam and Burma; China, Eastern Siberia, and Japan, ranging south to the Malay peninsula, the Philippines, and Borneo in winter.

Frequents wooded districts, and in summer is found at elevations up to 9,000 feet. Its flight is swift and graceful, and its food consists of insects, chiefly of caterpillars. It places its eggs in the nests of other birds, but is said to occasionally

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build its own nest of sticks without lining. Its eggs are described as being white, slightly speckled, measuring 1·39 by 1·05.

The note of this bird is described as being a loud melodious call, *chuck-dot-dot*, and also one resembling the cough of a human being.

676. Hodgson's Hawk-Cuckoo.

HIEROCOCCYX FUGAX.

Hierococcyx fugax (Horsfield), Tr. Linn. Soc. xiii. p. 178 (1821); Shelley, Cat. B. Br. Mus. xix. p. 236; *H. nisicolor* (Hodgs.), Icon. Ined. in Brit. Mus.: Passeres, pl. 357, fig. 1; (Blyth), J.A.Soc. Beng. 1843, p. 943; Blanf. F. Brit. Ind. Birds, iii. p. 214; *H. hyperythrus* (Gould), P.Z.S. 1856, p. 96; (id.) B. of Asia, vi. pl. 43; Seebohm, B. Jap. Emp. p. 171; *H. sparveroides*, (nec. Vigors); Schrenck, Reis. im Amurl. Vög. p. 257, pl. 10.

Ding-pit, Lepcha.; *Jiu-ichi*, *Ji-shin-cho*, Jap.

♂ *ad.* (Burma). Differs from *H. sparveroides* in being smaller, in having the upper parts all slaty grey, the tail barred like that species but conspicuously tipped with rufous; under parts striped, not barred. Upper mandible horny black, lower mandible and around nostrils pale green; gape greenish yellow; legs and eyelids bright yellow; iris orange-red. Culmen 0·88, wing 7·5, tail 5·55, tarsus 0·8 inch. According to Blakiston and Pryor the female has the breast uniform reddish brown without stripes. The young bird differs from that of *H. sparveroides* in having the stripes on the under parts narrower and more clearly defined.

Hab. South-east Siberia, Japan, China, Burma; the Himalayas west to Nepal; Assam, south to the Malay Archipelago.

In habits it resembles *H. sparveroides*, and its note is described as *jiu-ichi* quickly reiterated. Nothing is known respecting its breeding habits except that an egg extracted from the oviduct of the bird was uniform olive brown, with a darker zone round the larger end, and measured 0·89 by 0·64. Mr. Owston of Yokohama states, however, that the egg of this Cuckoo is blue.

COCCYZUS, Vieill., 1816.

677. Yellow-billed Cuckoo.

COCCYZUS AMERICANUS.

Coccyzus americanus (Linn.), Syst. Nat. i. p. 170 (1766); Gould, B. of E. iii. pl. 242; Audubon, B. of Am. iv. pl. 275; Newton, ii. p. 415; Dresser, v. p. 227, pl. 301, fig. 2; Shelley, Cat. B. Br. Mus. xix. p. 308; Saunders, p. 290; Lilford, ii. p. 28, pl. 12.

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♂ *ad.* (Texas). Upper parts metallic olivaceous brown, the two outer quills cinnamon-red nearly to the tip, paler on the inner web; middle tail-feathers like the back, the rest tipped with, and the outermost on the outer web, white; under parts white, sides of neck faintly tinged with ash; upper mandible bluish horn, at the base yellow; lower mandible yellow tipped with horn-blue; legs light plumbeous; iris dark brown. Culmen 0·95, wing 5·9, tail 6·2, tarsus 1·05 inch. Sexes alike. The young bird has less white on the tail, and less rufous on the wings.

Hab. North America from Canada to Brazil; West Indies; has occurred in Europe as a rare straggler, at least ten times in England, Wales, and Ireland, once in Belgium, and once in Italy.

Inhabits well wooded localities, especially those bordering the rivers, and though not very shy is wary and secretive in its general habits. Its note is a somewhat monotonous though not unpleasing *koo, koo, koo, koo,* or *ków, ków, ków, ków,* and it is said to be most clamorous at the approach of rain. Its food consists chiefly of insects, but it is said to take and eat the eggs of other birds. Unlike *C. canorus* it is not parasitic, but builds a slight nest of twigs and grass not unlike that of a Dove, which it places on the branch of a tree, and late in April or in May deposits 4, seldom 5 eggs, elliptical in form, in colour delicate light blue slightly tinged with green, occasionally clouded with white, in size averaging about 1·22 by 0·93.

The eggs of this bird are said to have been found in the nests of other species, but in such cases it would seem that the Cuckoo intended to usurp the nest of the other bird, and not to entrust her eggs to a foster-parent. The eggs are frequently deposited at intervals of several days, so that when the young are all hatched one may be nearly ready to leave the nest, and the youngest only hatched a few days or a week previously.

678. Black-billed Cuckoo.

COCCYZUS ERYTHROPHTHALMUS.

Coccyzus erythrophthalmus (Wilson), Am. Orn. iv. p. 16, pl. 28, fig. 2 (1811); Audubon, B. Am. iv. p. 300, pl. 276; Dresser, v. p. 231, pl. 301, fig. 1; Shelley, Cat. B. Br. Mus. xix. p. 311; Saunders, p. 290.

♂ *ad.* (N. America). Upper parts and tail metallic olivaceous, forehead tinged with ashy grey; wings with a faint coppery tinge, the inner webs of the primaries faintly tinged with cinnamon; middle tail-feathers with a subterminal dark brown mark and slightly tipped with white; under parts white, the throat tinged with yellowish buff, the sides of the neck, and the breast tinged with grey; under surface of the tail hoary

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grey; bill black, but bluish at the base below; legs light plumbeous; iris brown, and round the eye a dull vermilion naked skin. Culmen 0·92, wing 5·65, tail 6·5, tarsus 0·95 inch. Sexes alike.

Hab. Eastern North America, west to the Rocky Mountains, north to Labrador and Manitoba, south in winter to the West Indies, Central America, and South America to Colombia. Has occurred once in Ireland and once in Italy.

In habits and food it resembles *C. americanus* from which it is readily distinguishable by its black bill, but it is said to be less shy and wary than that bird. It builds its own nest and incubates its own eggs, but the nest is better constructed and finished than that of the Yellow-billed Cuckoo, and is placed, not on a tree, but on a bush usually two or three feet above the ground. The eggs, 3 to 6 in number, are deposited at irregular intervals, are rather smaller and darker than those of *C. americanus*, sometimes greener in tinge, usually rather smoother in texture and with a faint gloss, in size averaging 1·10 by 0·85.

STRIX, Linn., 1766.

679. Tawny Owl.

STRIX STRIDULA

Strix stridula, Linn. Syst. Nat. i. p. 153 (1766); Newton, i. p. 146; *S. aluco*, Linn. Syst. Nat. i. p. 132; Naum. i. p. 473, Taf. 46, 47, fig. 1; Hewitson, i. p. 63, pl. xviii. fig. 2; (Gould), B. of E. i. pl. 47; (id.) B. of Gt. Brit. i. pl. 24; (Dresser), v. p. 271, pl. 306; (Sharpe), Cat. B. Br. Mus. ii. p. 247; (Saunders), p. 297; (Lilford), i. p. 87, pls. 41, 42.

Chouette-hulotte, French; *Coruja do mato*, Portug.; *Carabo*, Span.; *Allocco*, Ital.; *Waldkauz*, Germ.; *Boschuil*, Dutch; *Katugle*, Norw. and Dan.; *Kattuggla*, Swed.; *Kissapöllö*, Finn.; *Obiknovennaya-Sova*, Russ.; *Bu-ru-ru*, Arab.; *Lu-Lual*, Moor.

♂ *ad.* (England). Crown, neck, and upper parts generally ashy grey, mottled with two shades of brown; scapulars and larger wing-coverts with a large patch of white on the outer web; primaries barred with dull white and dark brown; middle tail-feathers vermiculated and the rest broadly barred with dull blackish brown; no ear tufts; the facial disk greyish white with a dark brown marginal line; under parts greyish white streaked with blackish brown; legs feathered down to the claws, white slightly marked with brown; bill light horn becoming yellow at the tip; iris blue-black; edge of the eyelid pinkish. Culmen 1·5, wing 10·9, tail 7·2, tarsus 2·0 inch. The female differs only in being rather larger in size.

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This owl is subject to two phases of plumage, the one greyish and the other rufous, the latter being, it would seem, rather more common in the north than in the south.

Hab. Europe generally, becoming rarer in the high north and east, but has been met with in Lapland and three or four times in Finland; North Africa; occurs in the Kirghese forests but not in Asia further east.

Throughout its range it is a resident, frequenting woods and forests, and is essentially nocturnal in its habits. It feeds on small mammals and birds, large insects and even on fish and frogs, casting up the undigested portions in elongated pellets. Its flight is soft and noiseless, and its call-note is a loud hoot, and in the pairing season a wild laughing cry. It breeds early, selecting for the purpose of nidification a hollow tree, an old ruin, or a disused chimney, occasionally a deserted Rook's or Crow's nest, and in March deposits, on a slight bed of dry herbage, 3 to 5 pure white, smooth, roundish eggs, which in size average 1·8 by 1·6.

S. willkouskii (Menzbier), Bull. B. O. Club, vi. p. 4 (1896), from Transcaucasia, of which I have not seen a specimen, is said to differ from the present species in general colour, being darker, in character of markings, and in having the bill white.

680. Ural Owl.

STRIX URALENSIS.

Strix uralensis, Pall. Reis. Russ. Reichs, i. p. 445 (1771); Naum. i. p. 422, Taf. 42, fig. 1; Gould, B. of E. i. pl. 44; (Dresser), v. p. 277, pl. 307; (Tacz.) F. O. Sib. O. p. 138; (Sharpe), Cat. B. Br. Mus. i. p. 255; *S. liturata*, Tengmalm., Vet. Ak. Handl. 1793, p. 264; *S. fuscescens*, Temm. and Schlegel. Faun. Jap. Aves. pl. 10 (1850); (Sharpe), tom. cit. p. 256.

Ural-Habichts-Eule, German; *Slag-ugle*, Norweg,; *Slaguggla*, Swed.; *Viirupöllö*, Finn.; *Bolschaya-säraya-Sova*, Russ.; *Fuhurō* Jap.

♀ *ad.* (Archangel). Upper parts greyish white, closely striped with dark brown; wings and tail dark brown barred and tipped with ashy grey tinged with brown; facial disks greyish white, the feathers with blackish shafts; forehead and space between the disks deep brown; ruff white mottled with dark brown; under parts white broadly streaked with dark brown; feet and legs densely feathered; bill deep yellowish; iris blackish brown. Culmen 1·8, wing 14·0, tail 11·10, tarsus 2·4 inch; tail rounded, the outer feathers about 1·5 inch shorter than the middle ones. The male does not differ except that it is rather purer in colour, and smaller in size.

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Hab. Northern and N. Central Europe from Styria to Lapland, where it is only a rare straggler; Siberia, east to Manchuria, Corea, and Japan; not found in Great Britain.

In general habits it resembles *S. stridula*, and like that bird frequents woods and groves, and feeds on small mammals, birds, and occasionally on large insects. Like *S. stridula* it breeds in hollow trees, or takes possession of a deserted nest, and in March or April deposits 2 to 4 roundish pure white eggs which measure about 1·91 by 1·65.

681. Himalayan Wood-Owl.

STRIX NIVICOLA.

Strix nivicola (Hodgs.), in Gray's Zool. Misc. p. 82, (1831–44,) Blyth, J.A.S.B. xiv. pp. 185, 550 (1845); (Sharpe), Cat. B. Br. Mus. ii. p. 250; (Blanford), F. Brit. Ind. Birds, iii. p. 273; (Berezovski and Bianchi), Ptitz. Gan-su, p. 43.

Kashi-op-tak-hum, Lepch.; *Uko*, Bhot.

♂ *ad.* (Nepal). Upper parts dark brown vermiculated and spotted with fulvous, with large white markings on the hind-neck, the scapulars and larger middle wing-coverts; quills brown barred and mottled with dull white; tail brown, with pale cross-bars; under parts dull yellowish white barred and striped except on the middle of the throat with dark brown; legs and toes irregularly barred; facial disk greyish with white shafts; ruff brown marked with white or fulvous; middle of the crown uniform dark brown; bill pale fleshy yellow; claws and iris dark brown. Gape 1·35, wing 12, tail 7·0, tarsus 2·0 inch. Sexes alike. In this owl as in *Strix stridula* there is a grey and a rufous form.

Hab. The Himalayas from Murree to Sikhim, east to Moupin in China, north to south-west Kan-su.

Very little is known of the habits of this owl, and nothing respecting its nidification. Its cry is said to be a double hoot.

682. Biddulph's Wood-owl.

STRIX BIDDULPHI.

Strix biddulphi (Scully), Ibis, 1881, p. 423, pl. xiv.; (Blanf.) F. Brit. Ind. Birds, iii. p. 274.

♂ *ad.* Differs from *S. nivicola* in being larger and greyer, in having the middle tail-feathers and the outer webs of the next pair mottled throughout without cross-bars, the vermiculation of the upper parts finer, and the markings of the plumage are intermediate between those of *S.*

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stridula and *S. nivicola;* bill green, yellow at the tip; cere olive; toe-scales pale green; claws black, slaty at base; iris dark brown. Gape 1·45, wing 13·5, tail 8·5, tarsus 2·5 inch.

Hab. Gilgit and Peshawar; Afghanistan ?

Nothing is on record respecting the habits or nidification of this species.

683. Lapp Owl.

STRIX LAPPONICA.

Strix lapponica, Retz. Faun. Suec. p. 79 (1800); Naum. Nachtrag. Taf. 349; (Gould), B. of E. i. pl. 42; (Sharpe), Cat. B. Br. Mus. i. p. 254; (Dresser), v. p. 281, pl. 308; (Tacz.) F. O. Sib. O. p. 136; *S. barbata*, Pall. Zoogr. Ross. As. i. p. 318 (1811).

Lapland's Ugle, Norweg.; *Lapp Uggla*, Swed.; *Lapinpöllö*, *Pikku-huuhkaja*, Finn.; *Lappis-skuolffi*, Lapp.; *Kamennaja-sova*, Russ.; *Chakan*, *Maktschirga*, Yakutsk.

♀ *ad.* (Lapland). Upper parts dark ashy brown blotched and irregularly barred with white; scapulars white centrally striped and blotched with brown; quills and tail dark ashy brown with whitish bars vermiculated with greyish brown, the latter broadly tipped with dark brown; facial disk greyish white narrowly barred with dark brown; margin of the disk chocolate brown margined with white; chin blackish brown; under parts dull white streaked with dark brown; legs greyish white narrowly barred with greyish brown; bill yellowish horn; iris light yellow. Culmen 1·9, wing 18·0, tail 12·8, tarsus 2·55 inch. Male similar but smaller. The young bird has the upper parts sooty chocolate brown very little marked with white, the facial disk scarcely defined, the under parts brown closely barred with dull white.

Hab. Northern Scandinavia, Lapland, Finland, and North Russia, rarely straying south to Germany; Northern Siberia, and Kamchatka; of rare occurrence in S.E. Siberia.

Inhabits the large forests in the high north, and is as a rule shy and wary, but at its nest it is extremely bold. Its cry consists of three notes drawn out, the first hardest, the second lighter and short, the third lightest and most prolonged of all, *Hu, hu, huuu.* It feeds on small rodents especially lemmings and birds of different kinds. It lays in old deserted nests of the larger Raptores, and is also said to make its own nest; in May it deposits 3 to 7 pure white slightly glossy eggs, which in size average about 2·20 by 1·67.

In North America this owl is replaced by a nearly allied form *S. cinerea* Gmel., which differs merely in being darker, with the markings on the breast less distinctly defined.

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NYCTEA, Steph., 1826.

684. SNOWY OWL.

NYCTEA SCANDIACA.

Nyctea scandiaca (Linn.), Syst. Nat. i. p. 132 (1766); Newton, i. p. 187; Dresser, v. p. 287, pls. 309, 310; Sharpe, Cat. B. Br. Mus. ii. p. 125; Saunders, p. 303; Lilford, i. p. 105, pl. 50; Blanf. F. Brit. Ind. iii. p. 290; *S. nyctea*, Linn. Syst. Nat. i. p. 132 (1766); Naum. i. p. 417, Taf. 41; Wils. Am. Orn. iv. p. 53, pl. 32, fig. 1; Gould. B. of E. i. pl. 43; *S. nivea*, Thunb. Sv. Akad. Handl. 1798, p. 184; (Gould), B. of Gt. Brit. i. pl. 34; *S. arctica*, Bàrtr. Trav. Carol. p. 289 (1791).

Surnie Harfang, French; *Schnee-Eule*, Germ.; *Sneugle*, Dan. and Norweg.; *Fjelluggla*, *Harfang*, Swed.; *Skuolffi*, Lapp.; *Tunturipöllö*, Finn.; *Bielaya-sova*, Russ.; *Ak-uku*, Baskir.

♂ *ad.* (Siberia). Pure white, with the remains of a few dark bars on the upper parts, occasionally quite white; legs and feet covered with long, dense, hair-like feathers; on the head small, scarcely perceptible ear-tufts; bill and claws blackish horn; iris deep yellow. Culmen 2·25, wing 16·0, tail 8·8, tarsus 2·4 inch. The female is larger and has the upper parts closely barred with blackish brown, the under parts also, but with narrower bars.

Hab. The high northern portions of Europe, Asia and America, wandering south in winter, when it has been met with in the British Islands, France, Germany; once even in the N.W. Punjab. In North America it has been met with in winter as far south as Texas and the Bermudas.

Does not inhabit forests, but frequents the open, treeless plains, and rocky parts of the mountains, and is shy and wary, and though noiseless its flight is strong and protracted. It hunts both in the daytime and in the dusk of the evening, and preys on small rodents, Arctic hares, Willow Grouse, Ptarmigan, and other birds, fish, and carrion. Its cry is a loud *krau-krau*, and also *rick*, *rick*, *rick*. Its nest is a mere hollow in the open ground, or on the ledge of a rock, sometimes lined with a few feathers or a little grass, and from 4 to as many as 10 eggs are deposited in June or July at indefinite intervals so that fresh hatched as well as nearly fledged young are found in the same nest. The eggs are roundish oval, fine in grain of shell, pure white and in size average about 2·32 by 1·76.

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SURNIA, Dumér., 1806.

685. HAWK-OWL.

SURNIA ULULA.

Surnia ulula (Linn.), Syst. Nat. i. p. 133 (1766); Sharpe, Cat. B. Br. Mus. ii. p. 129; Newton, Ooth. Wolley. p. 167; Dresser, v. p. 301, pl. 311; Tacz. F. O. Sib. O. p. 123; *S. nisoria* (Meyer), Ann. Wetter. Gesellsch. i. p. 268 (1809); Naum. i. p. 427, Taf. 42. fig. 2; *S. funerea*, Duméril, Zool. Anal. p. 34 (1806 partim); Gould, B. of E. i. pl. 45; (id.), B. of Gt. Brit. i. pl. xxvi; Hewitson, i. p. 65, pl. xviii. fig. 1.

Sperbereule, German; *Högeugle*, Dan.; *Högugle*, Norw.; *Hökuggla*, Swed.; *Pigan, Girjelodde*, Lapp.; *Pissi-haukka, Haukkapöllö*, Finn.; *Jaczebata-Sova*, Pol.; *Jastrebinaia-Sova*, Russ.

♂ *ad.* (Sweden). Head, nape, and upper back dull white and blackish mottled; rest of the upper parts dark brown, the lower back barred with dull white; wings brown, the quills spotted and some of the inner secondaries banded with white, the wing-coverts also white spotted; tail pale brown barred with brownish white and tipped with white; facial disk dull white, on the sides bordered by a crescentic line of black; throat whitish mottled with brown, the upper breast almost white; under parts white, narrowly barred with dark brown; legs and toes thickly feathered; beak light yellow; soles yellow; claws blackish brown; iris bright yellow. Culmen 0·9, wing 8.8, tail 7·0, tarsus 1·0 inch. Sexes alike, but the female is rather darker in colour and larger in size.

Hab. Northern Europe and Asia, as far north as Northern Lapland and Kamchatka; wandering south in winter to North Germany; of very rare occurrence in Great Britain; of accidental occurrence in Western Alaska.

Frequents open places in the woods and plains where trees are scattered about, and in the mountains it is found up to the birch region. It hunts by daylight as well as in the evening, and bright sunshine does not appear to incommode it. Its flight is very Hawk-like and swift, and the bird is by no means shy or even wary. Its food consists of lemmings, mice, &c., and birds even as large as a Willow Grouse. It nests in a hollow tree or in the boxes placed by the natives for the Ducks to lay in, and in May deposits on the bare wood 6 to 8 or even 10 pure white roundish eggs closely resembling those of the Short-eared Owl, but usually smaller, which measure about 1·52 by

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1·13. At its nesting-place this owl is very bold and daring and will often swoop down on and strike any one who attempts to rob its nest. Its cry much resembles that of the Kestrel.

686. Subsp. Surnia funerea.

Surnia funerea (Linn.), Syst. Nat. i. p. 133 (1766 partim); Audub. B. N. Am. pl. 378; Newton, i. p. 183 (partim); Dresser, v. p. 309, pl. 312 Bendire, N. Am. B. i. p. 392, pl. xii. fig. 18 (egg); Saunders, p. 305; Lilford, i. p. 103, pl. 49; *Surnia caparoch* (P.L.S. Müller), Nat. Syst. Suppl. i. p. 69 (1766); Ridgw. Manual, p. 265.

♂ *ad.* (New Brunswick). Differs from *S. ulula* in being darker and in having the bars on the under parts broader, darker, and tinged with chestnut. Culmen 1·0, wing 9·0, tail 8·0, tarsus 1·2 inch.

Hab. Northern North America, straying south in winter to the northern border of the United States; of accidental occurrence in Great Britain.

In habits, this Owl does not differ from its European ally, and, like that species, it breeds in hollow trees or on a rotten stump, depositing in April or May 3 to 7 eggs which closely resemble those of *S. ulula*, and in size average about 1·55 by 1·23.

NYCTALA, Brehm, 1828.

687. Tengmalm's Owl.

NYCTALA TENGMALMI.

Nyctala tengmalmi (Gmel.), Syst. Nat. i. p. 291 (1788); (Naum.), i. p. 500, Taf. 48, figs. 2, 3; (Gould), B. of E. i. pl. 49; (id.) B. of Gt. Brit. i. pl. 36; (Hewitson), i. p. 66, pl. xix. fig. 2; Newton, i. p. 154; Dresser, v. p. 319, pl. 313; (Audubon), B. of. Am. pl. 380; Sharpe, Cat. B. Br. Mus. ii. p. 284; Tacz. F. O. Sib. O. p. 133; Saunders, p. 299; Lilford, i. p. 89, pl. 43; Ridgw. p. 260; *N. dasypus* (Bechst.), Naturg. Deutschl. ii. p. 972 (1805); *N. richardsoni* (Bp.), Comp. List. p. 7. (1838).

Chouette Tengmalm, French; *Rauhfusskauz*, German; *Lilla Skovugle*, Dan.; *Perlugle*, Norweg.; *Perluggla*, Swed.; *Helmipöllö*, *Pikka-pissi*, Finn.; *Sytsch-rutschnoi*, Russ.

♂ *ad.* (Sweden). Upper parts dark umber brown, on the head spotted and on the rest of the upper parts blotched with white; tail with five bars of white spots; facial disk dull white with a dark outer ring; under parts white mottled with reddish brown, the middle of the abdomen nearly white; legs densely feathered, whitish mottled or speckled with brown;

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bill dirty yellow; iris bright yellow. Culmen 0·7, wing 6·7, tail 4·40, tarsus 0·75 inch. Female similar but larger. The young bird is darker, and the nestling is sooty umber above, slightly spotted with white and with dull yellowish brown below.

Hab. Scandinavia and N. Russia almost to the northern forest limit, south to the Pyrenees, Alps, Carpathians, and the Caspian; Siberia east to the Baikal, south to the Altai; not found in Kamchatka; of irregular occurrence in Great Britain; N. America south to the United States. Is strictly nocturnal and inhabits the forests throughout its range.

Its cry is a single melancholy call uttered at short intervals and heard only at night. Its food consists of small mammals and birds, and also, it is said, of beetles. In its general habits it is bold and fearless. It breeds early, using a hollow tree for the purposes of nidification; but not making any nest, and in April, May, or June, according to latitude, deposits 5 to 7 pure white, rather fine grained eggs, which in size average about 1·31 by 1·05.

A peculiarity in this owl is that the ear-orifices and also the configuration of the skull are asymmetrical.

ASIO, Briss., 1760.

688. Long-eared Owl.

ASIO OTUS.

Asio otus (Linn.), Syst. Nat. i. p. 132 (1766); (Naum.) i. p. 451, Taf. 45, fig. 1; Newton, i. p. 158; Dresser, v. p. 251, pl. 303; Sharpe, Cat. B. Br. Mus. i. p. 227; Blanf. F. Brit. Ind. Birds, iii. p. 271; Saunders, p. 293; Lilford, i. p. 91, pl. 44; *Otus vulgaris*, Fleming, Brit. Anim. p. 56 (1828); Gould, B. of E. pl. 39; id. B. of Gt. Brit. i. pl. 31; Hewitson, i. p. 55, pl. xvii. fig. 3, Tacz. F. O. Sib. O. p. 155.

Hibou vulgaire, French; *Mocho*, Portug.; *Buho*, Span.; *Gufo comune*, Ital.; *Waldohreule*, German; *Ransuil*, Dutch; *Skovhornugle*, Dan.; *Hornugle*, Norw.; *Hornuggla, Skogsuf*, Swed.; *Sarvipöllö*, Finn.; *Uschastaja-Sova*, Russ.; *Bāf*, Arab.; *Torafu-dzuku*, Jap.

♂ *ad.* (Scotland). Crown furnished with long, erectile tufts, brownish black, on the outer margins ochreous and on the inner greyish white; upper parts buff, marked, streaked, and vermiculated with brown, blackish and greyish white; tail warm ochreous, barred and slightly vermiculated with blackish brown; facial disk warm buff, the feathers on the inner

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ide of the eye blackish, the ruff dull white tipped with black; under parts warm buff, streaked and on the abdomen minutely barred with brownish black; legs to the toes covered with pale ochreous feathers; bill dark horn; iris ochreous yellow; claws dark horn. Culmen 1·1, wing 11·2, tail 5·9, tarsus 1·6 inch. The female is rather larger, darker, and usually more rufescent.

Hab. Europe generally, about as far north as 59° or 60° N. Lat.; rarer in the Azores, Canaries, and North Africa; Asia east to Japan, north to southern Siberia and south to Northern India.

Throughout the major portion of its range it is a resident, and frequents wooded districts and does not, like some of its allies, visit inhabited places and ruins. It is almost strictly nocturnal, hiding away in some sheltered place during the day, from which it emerges in the evening and hunts after its prey all the night. Its flight is soft and noiseless, and its call-note is a deep hoot. It feeds chiefly on mice but also on large insects and small birds. It nests in wooded localities usually taking possession of a deserted squirrel's drey, or the nest of a Crow or Raptor, which it repairs carefully, and lines with feathers or some other soft material, and from March to May, according to latitude, deposits 3 to 4, sometimes as many as 6 pure white, smooth, but not glossy eggs which measure about 1·63 by 1·31.

In North America this owl is replaced by a very closely allied species, *Otus americanus* Stephens, which differs only in having the upper parts darker and more clouded and the under parts marked with but few longitudinal, and many transverse stripes.

689. SHORT-EARED OWL.

ASIO ACCIPITRINUS.

Asio accipitrinus (Pall.), Reis. Russ. Reichs, i. p. 455 (1771); Newton, i. p. 163; Dresser, v. p. 257, pl. 304; Sharpe, Cat. B. Br. Mus. ii. p. 234; (Tacz.), F. O. Sib. O. p. 157; Blanf. F. Brit. Ind. Birds, iii. p. 271; Saunders, p. 295; Ridgway, p. 258; *A. brachyotus*, (Forst.) Phil. Trans. lxii. p. 384 (1772); (Naum.), i. p. 459, Taf. 45, fig. 2; (Hewitson), i. p. 58, pl. xvii. fig. 2; Gould, B. of E. pl. 40; id. B. of Gt. Brit. pl. 32; Audub. B. of N. Am. pl. 432; Lilford, i. p. 95, pl. 45; *A. sandwichensis* (Bloxh.), in Byron's Voy. of H.M.S. Blonde, App. p. 250 (1826); *A. galapagoensis* (Gould), P.Z.S. 1837 p. 10; *A. cassinii* (Brew.), Proc. Bost. Soc. Nat. Hist. 1856, p. 321.

Duc à courtes oreilles, French; *Mocho*, Portug.; *Bulto*, *Lechuza-campestre*, Span.; *Gufo di Padule*, Ital.; *Sumpf-reule*, German; *Velduil*, Dutch; *Kortöret-Ugle*, Norweg.;

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Sumpugle, *Hedeugle*, Dan.; *Jorduggla*, Swed.; *Jäggi-loadko*, Lapp.; *Lyhytsarvinen-pöllö*, *Pumppu-haukka*, Finn.; *Koritchnaya-Sova*, Russ.; *el-Hama*, Moor.; *Bāf*, Arab.

♂ *ad.* (Scotland). Ear-tufts short; upper parts buffy ochreous, streaked and blotched with dark brown; quills and tail barred with dark brown, the latter tipped with buffy white; facial disk dull white, with a few scattered blackish markings, the feathers round the eye blackish; ruff yellowish white, spotted and speckled with blackish brown; under parts pale ochreous, streaked, except on the lower abdomen, under tail-coverts, and legs, with blackish brown; legs pale ochreous, closely covered with short feathers; bill and claws blackish; iris bright yellow. Culmen 1·4, wing 11·7, tail 5·8, tarsus 2·0 inch. The female is rather larger and, as a rule, darker than the male, and the young bird is darker and more rufous, and the dark markings are larger.

Hab. The whole of Europe, north into the Arctic regions; Africa south to Natal except in Western Africa; Asia from Kamchatka to South China and Burma, east to Japan; Singapore, the Sandwich, Caroline, and Ladrones islands; America south to the straits of Magellan, north to the 67th parallel and Greenland; the Galapagos islands.

Unlike the Long-eared Owl the present species frequents open moors and damp marshy places, and is not a woodland bird.

It is doubtful if it hunts during the day, except in the Arctic summer, but does not seem to be incommoded by the glare of the sun when flushed. It feeds on mice, small birds, reptiles and coleoptera, &c.; its call is a shrill clear cry *keaw*, *keaw*, uttered on the wing, and its flight is buoyant. It breeds in the northern portions of its range, always nesting on the ground, its nest consisting merely of a little grass collected in a depression in the soil, and in April or May it deposits 4 to 6, but sometimes 7 or 8 pure white eggs, somewhat elongated, and smooth in texture of shell, which measure about 1·62 by 1·25.

690. African Eared Owl.

ASIO CAPENSIS.

Asio capensis (Smith), S. Afr. Quart. Journ. Ser. 2. vol. ii. p. 316 (1835); Dresser, v. p. 265, pl. 305; Sharpe, Cat. B. Br. Mus. ii p. 239; Irby, Orn. Str. Gibr. 2nd. ed. p. 140.

El-hama, Moorish.

♂ *ad.* (Morocco). Upper parts dark earth-brown, tinged with chocolate and vermiculated with lighter brown; quills rufescent ochreous, barred with

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blackish brown, the inner ones tipped with white; middle tail-feathers dark brown, with five warm buff bands, the rest warm buff, barred with blackish brown and tipped with white; ear-tufts small; face dull white, pencilled with dark brown, the feathers round the eye black; facial ruff black marked with reddish ochreous; under parts pale brown marked, spotted, and vermiculated with light fulvous and dull white; lower abdomen, under tail-coverts, and legs ochreous buff; toes nearly or quite bare; bill and feet blackish; iris bluish black. Culmen 1·5, wing 11·6, tail 6·0, tarsus 2·25 inch. Sexes alike.

Hab. North-west Africa, south to the Cape Colony, occurring locally in Southern Spain.

In habits it appears to resemble the Short-eared Owl, but it is only found in marshy localities and is gregarious. During the day time it hides in the long grass and reeds, hunting after its prey during the night, but if disturbed during the day it flies well and is not incommoded by the light. It feeds on water-insects, mice, lizards, &c. Its nest, like that of the Short-eared Owl, is placed on the ground in a damp marshy locality, and in April or May it lays 4, seldom 5, roundish white eggs.

SCOPS, Savigny, 1810.

691. Scops-Owl.

SCOPS GIU.

Scops giu (Scopoli), Ann. i. Hist. Nat. p. 19 (1769); Newton, i. p. 173; Dresser, v. p. 329, pl. 314; Sharpe, Cat. B. Br. Mus. ii. p. 47; Blanf. F. Brit. Ind. Birds, iii. p. 291; Saunders, p. 307; Lilford, i. p. 100, pl. 47; *S. scops*, Linn. Syst. Nat. i. p. 132 (1766); Naum. i. p. 466, Taf. 43, fig. 3; *S. aldrovandi.* Flem. Brit. Anim. p. 57 (1828); Gould, B. of E. i. pl. 41; Hewitson, i. p. 54, pl. xix. fig. 1; *S. zorca* (Gmel.), Syst. Nat. i. p. 19 (1788); Gould, B. of Gt. Brit. i. pl. 33.

Le petit Duc, French; *Mocho pequeño*, Portug.; *Corneja*, Span.; *Assiolo, Chiu*, Ital.; *Zwerg ohreule*, Germ.; *Kanuk*, Russ.; *Marouf*, Arab and Moorish; *Buf*, Persian.

♂ *ad.* (Spain). Upper parts greyish, varied with orange and brownish buff, sparingly striped with black, and finely vermiculated with dark brown; crown washed with rufous buff and strongly striped with black; ear-tufts small, greyish white on the inner web; scapulars marked with white; wings barred with white and speckled brown; tail light brown, vermiculated and barred with dark brown and fulvous; facial disk pale grey, speckled with greyish white and brown; below the ear-coverts to the

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sides of the neck a band of blackish feathers; under parts greyish white, vermiculated with brown, sparingly blotched and striped with blackish brown; beak black, claws whitish at the base, blackish towards the tip; iris yellow. Culmen 0·7, wing 5·7, tail 2·75, tarsus 1·0 inch. The female differs only in being rather larger, and the young in being more rufous in colour.

Hab. Central and Southern Europe, rarer in the northern parts of the continent, of occasional occurrence in Great Britain; North Africa, ranging south to Abyssinia, Sennaar, and Senegambia in the winter; in Asia as far east as Persia and Turkestan.

Frequents groves and woods where there is abundant undergrowth, and is especially nocturnal in its habits. It feeds chiefly, if not entirely, on insects of various kinds. Its note which is uttered constantly at short intervals during the night is a clear monotonous *he-ou*.

It breeds in holes in trees, or occasionally in deserted nests, seldom in holes in rocks or walls, its nest being a scanty bed of moss or grass, and in May it deposits 4 to 5, seldom 6, pure white roundish eggs, smooth in surface of shell, but not glossy, which measure about 1·18 by 1·01.

In Europe this owl is not subject to much or scarcely any variation in plumage except that a rufous form is occasionally met with, but in Asia there are several races, so closely allied that they scarcely constitute subspecies, viz., *Scops sunia*, Hodgson, from China and Nepal, which is a rufous form much redder than any rufous variety of *S. giu* from Europe; *Scops pennatus*, Blyth, from the Himalayas which is darker than the European bird and has the ear-tufts rufous in part; *S. gymnopodus*, Gray, appears to be merely a specimen which had accidentally lost the feathers of the lower tarsus; *Scops malayanus*, Hay, from South China and the Malayan peninsula, is a dark brownish form differing from *S. pennatus* as that form does from the European *S. giu*; and *Scops rufipennis*, Sharpe, from the Carnatic, which differs very little from *S. malayanus*, and is a small rather uniformly coloured race.

692. Subsp. Scops cyprius.

Scops cypria, Madarasz. Termesz. Füset. 1901, p. 272.

♂ *ad.* (Cyprus). Differs from *S. giu* in being much darker in plumage; upper parts darker and greyer, the markings on the under parts thicke and blacker. Culmen 0·75, wing 6·3, tail 2·78, tarsus 1·1 inch.

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Hab. Cyprus.

An insular form, resident on the island of Cyprus. In habits and nidification it does not appear to differ from *S. giu*.

693. Subsp. Scops japonicus.

Scops japonicus, Temm. and Schlegel, Faun. Jap. Aves, p. 27, pl. 9 (1850); Sharpe, Cat. B. Br. Mus. ii. p. 56; Tacz. F. O. Sib. O. p. 150; *S. bakkamœna*, Swinh. Ibis, 1860, p. 47 (nec. Penn); *S. stictonotus*, Sharpe, Cat. B. Br. Mus. ii. p. 54, pl. iii. fig. 2 (1875).

♂ *ad.* (Japan). Differs from *S. giu* in being darker and more uniform in colour, both on the upper and under parts, in having the dark markings less clearly defined, and the lower part of the tarsus unfeathered and bare. Wing 5·7, tail 2·8, tarsus 1·2 inch.

Hab. South-eastern Siberia (the Ussuri country and Amoor Bay), China, Manchuria, and Japan.

In habits this bird does not appear to differ from *Scops giu*, of which it is merely an eastern form. After a careful examination of specimens, I am unable to separate *Scops japonicus* from *S. stictonotus*, except that the latter approaches somewhat nearer to *S. giu* in having the dark markings somewhat better defined, especially on the under parts.

694. Subsp. Scops brucii.

Scops brucii (Hume), Str. Feath. i. p. 8 (1873); Sharpe, Cat. B. Br. Mus. ii. p. 62; Dresser, ix. p. 265, pl. 691; Blanf. F. Brit. Ind Birds, iii. p. 294; *S. obsoletus* (Severtz), J. f. O. 1875, p. 171; *S. strauchi*, Bogd. Khiva i Kizyl-Koum. p. 70 (1882).

Kutruz, Mahr.

♂ *ad.* (Transcaspia). Much paler than *S. giu*, the general colour being pale ochraceous grey; upper parts finely striped with blackish, and indistinctly vermiculated, the under parts more boldly streaked with black; quills dark brown, banded with ochraceous on the outer, and pale greyish brown on the inner web, the terminal portion finely vermiculated; tail ochraceous grey, finely vermiculated, and with five indistinct fulvous bands; lores and in front of and above the eye whitish; facial ruff pale ochraceous, indistinctly vermiculated with grey, and tipped with black; chin whitish; tarsus feathered to the base of the toes; bill dusky, toes dull slate-coloured, claws black; iris yellow. Culmen 0·95, wing 6·4, tail 3·2, tarsus 1·4 inch. Sexes alike.

Hab. Transcaspia, Bokhara, Afghanistan, Wakhan; Sind, Gilgit, and the Bombay Presidency and Western Khandesh; has also been said to have occurred in Syria.

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In habits it resembles *S. giu* of which it seems to be a desert form, and like that species breeds in hollow trees, frequently making use of the deserted nest-holes of the larger Woodpeckers. Its eggs are pure white and resemble those of *Scops giu*, but are larger, measuring about 1·24 by 1·09.

695. Rough-footed Scops-Owl.

SCOPS SEMITORQUES.

Scops semitorques (Temm. and Schlegel), Faun. Jap. Aves, p. 25, pl. 8 (1850); Sharpe, Cat. B. Br. Mus. ii. p. 83; Blanf. F. Brit. Ind. Birds, iii. p. 300; Tacz. F. O. Sib. O. p. 153; *S. plumipes* (Hume), Rough Notes, p. 397 (1870); Sharpe, tom. cit. p. 85.

Ō-ko-no-ha-dzuku, Jap.

♂ *ad.* (Japan). Differs from *S. giu* in being somewhat larger, darker and more boldly marked, in having a well defined buff or buffy white collar round the hind-neck, and the legs are more densely covered with soft feathers, which extend over the major portion of the toes. Gape 0·9, wing 8·8, tail 5·6, tarsus 1·5 inch.

Hab. The Himalayas from Sikhim to Murree, Moupin in China; the Ussuri country and island of Ascold; Corea; Japan.

In habits it does not appear to differ from *S. giu*. It is said to frequent the wooded portions of the mountains. It nests in the hole of a tree and in May deposits pure white, slightly glossy eggs, which measure from 1·26 by 1·1 to 1·28 by 1·5.

Specimens from the Himalayas are rather smaller than those from Japan.

BUBO, Duméril, 1806.

696. Eagle-Owl.

BUBO IGNAVUS.

Bubo ignavus, Forst. Syn. Cat. B. B. p. 3 (1817); Newton, i. p. 168; Dresser, v. p. 339, pl. 315; Sharpe, Cat. B. Br. Mus. ii. p. 14; Tacz. F. O. Sib O. p. 143; Blanford, F. Brit. Ind. Birds, iii. p. 284; Saunders, p. 509; Lilford, i. p. 97, pl. 46; *Strix bubo*, Linn. Syst. Nat. i. p. 131 (1766); Naum. i. p. 440, Taf. 44; *B. maximus*, Flem. Brit. An. p. 57 (1828); Gould, B. of E. i. pl. 37; id. B. of Gt. B. pl. 30.

Grand-duc, French; *Bufo*, Portug.; *Buho grande*, Span.; *Gufo reale*, Ital.; *Uhu*, German; *Bjergugle*, Dan. and Norweg.;

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Berguf, Swed.; *Pälljiskuolffi, Lidno*, Lapp.; *Huuhkaja*, Finn.; *Filin*, Russ.

♂ *ad.* (Sweden). Upper parts generally reddish ochreous or reddish rown, marked and marbled with black; rump and upper tail-coverts rusty rufous barred with black; quills blackish with yellowish brown, the bars vermiculated with black; tail rufescent ochreous, barred and marbled with black; two conspicuous tufts on the head; facial disk rufous grey speckled and faintly barred with black; throat white; under parts brownish ochreous marked and barred with black, the feathered legs more rufous and less barred; bill and claws blackish horn; iris rich orange. Culmen 2·5, wing 18·0, tail 10·5, tarsus 3·1 inch. The female differs only in being somewhat larger.

Hab. Europe generally, from the Arctic to the Mediterranean, but somewhat rare in North Africa; a rare straggler to Great Britain; does not seem to occur far east of the Ural in the north, but is met with in the Himalayas.

Frequents forests and rocky localities and is nocturnal in its habits, though not dazed by the sunlight when disturbed by day. Its cry is a loud, deep *hu, hu* modulated in various ways. It is one of the boldest of our European birds of prey and very destructive to game, but it does not disdain rats, mice, hares, rabbits, crows, etc., etc. It nests in the rocks or on the ground, or in the forests will utilize the nest of one of the larger birds of prey, and from March to May, according to latitude, it deposits 2 or 3, seldom 4, roundish pure white eggs, somewhat rough in grain of shell, which average about 2·29 by 1·91.

697. Subsp. Bubo turcomanus.

Bubo turcomanus (Eversm.), Add. Zoogr. Ross. As. i. p. 3 (1835); Sharpe, Cat. B. Br. Mus. ii. p. 17 (partim).

♂ *ad.* (Tibet). Differs from *B. ignavus* in being as a rule slightly smaller, in having the under parts more barred and less striped with black; upper parts paler and less marked with blackish.

Hab. Central Asia, west to the Ural, east to Turkestan and Tibet.

698. Subsp. Bubo sibiricus.

"*Bubo sibiricus*, Licht." (Susemihl) Vög. Eur. Taf. 44 (1841); ? Licht. Nomencl. Av. p. 7 (1854); Tacz. F. O. Sib. O. p. 145; *B. turcomanus*, Sharpe, Cat. B. Br. Mus. ii. p. 17 (partim, nec. Eversm.).

♂ *ad.* (Siberia). Differs from *B. ignavus* in having the ground colour of the plumage white, the upper parts, wings, and tail here and there faintly washed with pale rufescent ochreous, the ground colour of the under parts

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pure white, the blackish markings rather fewer, and the facial disk white, with a faint ochreous grey tinge; ear-tufts black on the outer, and white on the inner web; feathers on the legs and feet white. Culmen 2·35, wing 18·5, tail 11·0, tarsus 3·6 inch.

Hab. This bird, which is a north-eastern form of *B. ignavus*, nhabits Siberia, east to the Pacific coast, and in habits and nidification does not differ from that species. The eggs, which are usually deposited late in March, are white, and measure about 2·35 by 1·92.

699. Japanese Eagle-Owl.

BUBO BLAKISTONI.

Bubo blakistoni, Seebohm, P.Z.S. 1883, p. 466; id. Ibis, 1884, p. 42, pl. vi.; (Tacz.) F. O. Sib. O. p. 147.

Shima-fukurō, Jap.

ad. (Japan). General colour of the upper parts brown, marbled with buff, which takes the form of transverse bars on the wings and tail; no black blotches as in *B. ignavus*, but all the small feathers with dark brown shaft-streaks, under parts similar, but the shaft-streaks narrower. Chin and upper throat white, with very narrow shaft-streaks. Ear-tufts well developed. Tarsus feathered, but toes entirely bare. Culmen 2·8, wing 21·0, tail 11·5, tarsus 3·8 inch.

Hab. Japan, the Sidemi river in S.E. Siberia, and Lake Khanka.

Is readily distinguishable from *B. ignavus* in having the tarsus only feathered and the toes bare, and appears to be the only species of this genus found in Japan. Respecting its habits and nidification nothing appears to be on record.

700. Subsp. Bubo dorriesi.

Bubo dorriesi, Seebohm, Bull. B. O. Club, v. p. iv. (1895).

♀ *ad.* (Amur-Bay). Differs from *B. blakistoni*, merely in having the upper parts paler and whiter, and in having a white nuchal patch; tail creamy white blotched with blackish towards the end, the middle feathers indistinctly vermiculated with pale brown. Wing 17·5, tail 10·5, tarsus 2·9 inch.

Hab. Eastern Siberia.

Nothing is known of the habits and nidification of this bird, though five specimens have been obtained. The specimen described is a very fine female in the Rothschild Museum at Tring.

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701. Egyptian Eagle-Owl.

BUBO ASCALAPHUS.

Bubo ascalaphus, Savigny, Ois. de l'Égypte, &c. p. 50, No. 25, pl. v. (1810); Gould, B. of. E. i. pl. 37; Sharpe, Cat. B. Br. Mus. ii. p. 24; Dresser, ix. p. 267, pl. 692; "*A. savignii*, Geoffr. St. Hil.", Gray Gen. of B. p. 7 (1841).

Bāf-relid, Arabic.

♂ *ad.* (Egypt). Upper parts warm rufous buff, matted with blackish brown and white, the tail-coverts barred with blackish brown; tail rufous buff barred with dark brown, the middle feathers paler; chin and throat white; rest of under parts buff, the breast and upper flanks blotched, the rest of the under parts barred with brown; legs and feet feathered, buff, barred with pale brown; iris deep yellow, beak and claws blackish horn. Culmen 2·2, wing 15·4, tail 9·3, tarsus 3·0 inch. The female differs only in being larger.

Hab. Northern Africa from Morocco to Egypt, south to Abyssinia, and Central Nubia.

Inhabits rocky gorges and desert places, old ruins, etc., is nocturnal, and in its general habits resembles *B. ignavus*. In Egypt it breeds in March or early in April, depositing 2 or 3 roundish, pure white eggs which are finer in grain of shell than those of the Eagle Owl, in size about the same as those of the Lapp Owl, measuring about 2·13 by 1·67.

This Owl is subject to considerable variation in tone of colour, and Baron von Erlanger has described and figured (J. f. O. 1898, pp. 492, 495, taf. xii. xiii.) two of the pale varieties from Tunis, separating them subspecifically under the names *Bubo ascalaphus barbarus* and *B. a. desertorum*.

702. Rock Eagle-Owl.

BUBO BENGALENSIS.

Bubo bengalensis (Frankl.), P.Z.S. 1831, p. 115; (Gould), Centur. B. Himal. Mts. pl. 3; Sharpe, Cat. B. Br. Mus. ii. p. 25; Blanf. F. Brit. Ind. Birds, iii. p. 285; Berezovski and Bianchi, Ptitz. Gan-su, p. 44.

Ghúgá, Hind.; *Ghubâd*, Mahr.

♂ *ad.* (India). Resembles *B. ascalaphus*, but has, as a rule, the upper parts less rufous, and more closely marked and mottled; abdomen more closely and finely barred; bill blackish horn; claws dusky; iris orange yellow, toes bare to about 0·3 above the base of the claws. Culmen 2·0, wing 14·3, tail 9·0, tarsus 3·0 inch. Female similar, but rather larger.

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Hab. The whole of India, but not in Ceylon; Western Punjab and Sind; said to occur in Afghanistan; Kashmir; South-eastern Kan-su.

Frequents rocky hills, ravines, brushwood beside rivers and streams, and groves on the plains. It is not exclusively nocturnal; it feeds on small rodents and birds, lizards, snakes, crabs, and large insects. Its call is a loud dissyllabic hoot. It breeds from December to April, placing its 2 to 4 eggs in a cave, on a rocky ledge, or under a bush or tuft of grass on the ground. These are pure white, roundish, and measure about 2·1 by 1·73.

GLAUCIDIUM, Boie, 1826.

703. Pigmy Owl.

GLAUCIDIUM PASSERINUM.

Glaucidium passerinum (Linn.), Syst. Nat. i. p. 133 (1766); (Gould), B. of E. i. pl. 50; Dresser, v. p. 349, pl. 316; Sharpe, Cat. B. Br. Mus. ii. p. 191; *Strix arcadica* Naum. i. p. 434, Taf. 43, fig. 1, 2.

Surnie chevêchette, French; *Sperlingseule*, German; *Civetta nana*, Ital.; *Dwerguil*, Dutch; *Spurvugle, Dvaergugle*, Dan. and Norweg.; *Sparfuggla*, Swed.; *Varpuispöllö*, Finn.; *Sytschmaloutka*, Russ.

♂ *ad.* (Sweden). Upper parts, wings, and tail umber brown, tinged with grey; head and back marked with small fulvous white spots and bars, which are larger on the nape; wings marked with dull white; tail narrowly barred with dull white; no true facial disk, but the facial feathers white varied with brown bars; chin, moustachal stripe, and lower throat white; upper throat brown varied with white; rest of under parts white, the flanks and under tail-coverts streaked with brown; feet brownish yellow, talons blackish brown; bill and iris yellow. Culmen 0·55, wing 3·9, tail 2·2, tarsus 0·5 inch. Female similar, but rather larger. The young are browner, with scarcely any spots of white, and the stripes on the under parts are broader.

Hab. Northern and Central Europe, from Lapland south to Switzerland, Styria, and the Caucasus; not found in Great Britain; Northern Asia east to Dauria.

Frequents forests, especially on the borders where hollow trees are to be met with, and mountainous districts, and is chiefly a resident, though some appear to migrate south in the

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autumn. It is nocturnal, hunting, however, chiefly in the early morning and late in the evening. It feeds on lemmings, mice, small birds, and insects, and is bold and voracious. Its note is a monotonous *hȳ, hŏ, hŏ, hŏ,* or *hȳ, hȳ, hȳ, hō.* It breeds in the forests, taking possession of a hole in a tree in which it deposits 3 to 4 eggs. Authenticated eggs have been taken in Scandinavia in May 1850 and in Styria in April 1862. They are pure white, elongated-roundish in shape, rather polished in surface of shell with deep distinct pores widely apart.

Eggs taken in Sweden, the parent-bird having been captured on the nest, measure 0·97 by 0·78 to 1·01 by 0·78, whereas those taken in Styria measure 1·18 by 0·91.

Dr. von Madarasz has separated under the name *G. setipes* the southern bird from the Scandinavian, as having the toes almost bare, but specimens I have examined from Bosnia have the feet as well covered as the ordinary Swedish form.

704. Collared Owl.

GLAUCIDIUM BRODIEI.

Glaucidium brodiei (Burton), P.Z.S. 1835, p. 152; Sharpe, Cat. B. Br. Mus. ii. p. 212; Blanf. F. Brit. Ind. Birds, iii. p. 307; Berezovski and Bianchi, Ptitz. Gan-su, p. 43; *Athene minutilla* Gould, B. of A. i. pl. 15 (1870)); *G. immaculatus*, Hume, Rough Notes, p. 420 (1870).

♂ *ad.* Crown, cheeks, and ear-coverts brown, finely spotted with dull white or buffy white; below the nape a broad band of rufous buff, broadly marked with black; rest of the upper parts, wings, and tail brown, barred with buffy white; scapulars marked with large white spots; chin and breast pure white; sides of breast and a band across the upper breast dark brown; rest of the under parts white, broadly striped or barred with dark brown; toes bare; bill, cere, and feet yellowish green; iris bright yellow; claws horny. Culmen 0·7, wing 3·8, tail 2·4, tarsus 0·8 inch.

Hab. The Himalayas west to Murree; the hills south of the Assam valley; the Karennee and Tenasserim ranges; Perak: Southern China; south-west Kan-su.

Inhabits the hill forests, and is somewhat diurnal in its habits. It feeds on birds, small mammals, insects, lizards, and frogs. Its note is a clear whistle, *whoo, whoo, whoo, whoo.* It breeds usually in May or June, and lays in holes in trees 4 pure white, round eggs. Its nest has been found containing young birds, but, so far as I am aware, only one broken egg has as yet been obtained.

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NINOX, Hodgson, 1837.

705. Hairy Owl.

NINOX SCUTULATA

Ninox scutulata (Raffl.), Tr. Linn. Soc. xiii. p. 280 (1822); Sharpe, Cat. B. Br. Mus. ii. p. 156; Blanf. F. Brit. Ind. Birds, iii. p. 309; *N. hirsuta* (Temm.), Pl. Col. i. pl. 289 (1824); *N. japonica* (Bp.), Consp. G. Av. i. p. 41 (1850); (Temm. and Schlegel), F. Jap. Aves, pl. 9B; David and Oust. Ois. Chine, p. 36; *N. lugubris* (Tickell), J.A.S.B. ii. p. 572 (1833); Sharpe, tom. cit. p. 154; *N. burmanica* Hume, Str. Feath. iv. p. 285 (1876); *N. innominata* Hume, op. cit. iv. p. 286 (1876); *N. affinis* Beavan, Ibis, 1867, p. 316; Sharpe, tom. cit. p. 155.

Choghad besra, Hind.; *Kal-pechak*, Beng.; *Aoba-dzuku*, Jap.

♂ *ad.* (Japan). Ruff and facial disk obsolete; upper parts rich chocolate brown, less rufous in tinge on the head and neck; scapulars and innermost secondaries slightly marked with buffy white; tail boldly barred with blackish on a greyish brown ground; chin white, the hair-like feathers round the bill white, with black shafts; under parts chocolate brown, broadly striped with white; under tail-coverts white, sparingly streaked with pale chocolate brown; bill bluish black, cere dull green; feet dull yellow, claws horn brown; iris bright yellow; tarsus feathered, the toes sparsely covered with bristles. Culmen 0·97, wing 7·4, tail 4·2, tarsus 0·98 inch. Female similar but larger.

Hab. Sidemi in S.E. Siberia, the island of Askold, Corea, Japan; India, China, Burma, Ceylon, and the Indo-Malayan region generally.

This Owl is chiefly nocturnal, keeping in the dense woods during the day time. It feeds on insects, mice, lizards, etc. Its call-note is a not unmelodious hoot, *whōō-wuk*, *whōō-wuk*, and it is said when wounded to cry like a hare. It is also said to evince a marked preference for the vicinity of water. It breeds early in the year, but little is known of its breeding habits. An egg found in Ceylon was in the hollow of a dead cocoa-nut tree, on an irregular bed of dried leaves, and was pure white, with a fine compact but scarcely glossy shell, in shape nearly spherical, and measured 1·45 by 1·27.

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ATHENE, Boie, 1822.

706. LITTLE OWL.

ATHENE NOCTUA.

Athene noctua (Scop.), Ann. i. Hist. Nat. p. 22 (1772); (Naum.), i. p. 493, Taf. 48, fig. 1.; (Newton), i. p. 178; Gould, B. of Gt. Brit. i. pl. 37; Dresser, v. p. 357, pl. 317; (Sharpe), Cat. B. Br. Mus. ii. p. 133; Saunders, p. 301; Lilford, i. p. 102, pl. 48; *A. nudipes* (Nils.) Orn. Suec. i. p. 68 (1817); (Gould), B. of E. i. pl. 48; (Hewitson), i. p. 67, pl. xix. fig. 3.

Chouette chevêche, French; *Môcho*, Portug.; *Mochuélo*, Span.; *Civetta*, Ital.; *Steinkauz*, German; *Minervas Ugle*, Dan.; *Steenuil*, Dutch; *Sytsch-domovoi*, Russ.; *Mouka*, Moorish.

♂ *ad.* (Germany). Upper parts brown, the head striped, the other parts mottled and spotted with white, the head tinged with fulvous; quills barred and spotted with white; tail barred with fulvous white; no facial disk; forehead, eyebrow, malar region and throat white; sides of neck and lower throat brown, mottled with white; under parts white, below the breast streaked and mottled with brown; lower abdomen, thighs, and under tail-coverts fulvous white; bill greenish yellow; feet greyish yellow, sparsely covered with hairy bristles; iris yellow. Culmen 0·65, wing 6·0, tail 2·9, tarsus 1·1 inch. Female similar but larger. Young tinged with rufous.

Hab. Continental Europe, south to the Mediterranean; a rare straggler to England and Sweden; Morocco.

Frequents gardens, orchards, and old buildings, and also is found in villages, farmyards, etc., where not molested. It is partly diurnal in its habits, though chiefly nocturnal. Its note is a monotonous *cu, cu-cu* or *kuwitti, kuitti*, in the spring considerably modulated, and it is said to utter a mewing call. It feeds on small birds, mice, large insects, etc., and is generally looked on as a useful bird. It makes no regular nest, but places its eggs in a hole in an old wall or a rock, or in buildings, in a hollow tree, or in a hole in the ground. The eggs, 3 to 5 in number, are usually deposited in May, and are roundish in shape, and in size average 1·35 by 1·12.

707. SUBSP. ATHENE GLAUX.

Athene glaux (Savigny), Syst. Ois. de l'Égypte, &c. p. 45 (1810); Dresser, v. p. 367, pl. 318; (Sharpe), Cat. B. Br. Mus. ii. p. 135; *A. persica*, (Vieill.), Nouv. Dict. vii. p. 26 (1817); *A. meridionalis*; (Risso), Hist. Nat. Eur. Mérid. iii. p. 32 (1826).

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Bouma, Arab.

♂ *ad.* (N. Africa). Differs from *A. noctua* only in having the brown coloration of the upper parts much paler, sandy rufous in tone, and the brown markings on the under parts much paler and more rufescent; soft parts as in *A. noctua*. Culmen 0·75, wing 6·1, tail 3·1, tarsus 1·25 inch. The male is similar but smaller.

Hab. Southern Europe and N. Africa to about 14° N. Lat. in E. Africa; Asia Minor and Palestine, east to Persia and probably Afghanistan.

In general habits and nidification this Owl does not differ from *A. noctua*, and its eggs are undistinguishable from those of that species.

708. Eastern Little Owl.

ATHENE BACTRIANA.

Athene bactriana Hutton, J.A.S.Beng. xvi. p. 776 (1847); (Sharpe), Yark. Miss. Aves, p. 14, pl. iii.; Dresser, ix. p. 271; Blanf. F. Brit. Ind. Birds, iii. p. 303; *A. plumipes* Swinhoe, P.Z.S. 1870, p. 448; (Sharpe), Cat. B. Br. Mus. ii. p. 137.

Ay-chay, *Hay-kis*, Kirghis; *Sirin mochnonogey*, Russ.; *Kutruz*, Mahr.

♂ *ad.* (Transcaspia). Differs from *A. glaux* only in having the legs and the toes to the base of the claws densely feathered. Culmen 1·0, wing 6·45, tail 3·3, tarsus 1·35 inch.

Hab. Transcaspia, Afghanistan, Turkestan, Mongolia, Dauria, and China.

In habits this species is said to resemble *A. noctua*. In Mongolia it frequents the clayey banks of brooks and rivers, and the open steppes. Mr. Zarudny, who has found its nest, describes the eggs as being spherical in shape, white in colour, and glossy in texture, measuring 1·3 to 1·38 by 1·01 to 1·14.

ALUCO, Fleming, 1822.

709. Barn Owl.

ALUCO FLAMMEUS.

Aluco flammeus (Linn.), Syst. Nat. i. p. 133 (1766); (Naum.) i. p. 483, Taf. 47, fig. 2; (Hewitson), i. p. 61, pl. xviii. fig. 1; (Gould), B. of E. i. pl. 36; (id.), B. of Gt. Brit. i. pl. 28; Newton, i. p. 194; (Dresser), v. p. 237, pl. 302; (Sharpe), Cat. B. Br. Mus. ii. p. 291;

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(Audubon), B. of Am. pl. 171 ; (Blanf.), F. Brit. Ind. Birds, iii. p. 264 ; (Saunders), p. 291 ; (Lilford), i. p. 109, pl. 51 ; *S. pratincola*, Bp. Comp. List. p. 7 (1838) ; Ridgway, p. 255 ; *S. javanica*, Gmel. Syst. Nat. i. p. 295 (1788) ; *S. perlata*, Licht. Verz. Doub. p. 59 (1823) ; *S. furcata*, Temm. Pl. Col. i. pl. 432 (1827) ; *S. delicatula* Gould, P.Z.S. 1836, p. 140 ; *S. pinctatissima* Gray in Darwin's Zool. Beagle, Birds, p. 34, pl. 4 (1841) ; *S. poensis*, Fraser, P.Z.S. 1842, p. 189 ; *S. africana*, Bp. Rev. and Mag. de Zool. 1854, p. 540 ; *S. indica*, Blyth, Ibis, 1866, p. 250 ; *S. affinis* Layard, B. of S. Afr. p. 42 (1867) ; *S. insularis*, Pelz. J. f. O. 1872, p. 23.

Effraye commune, French ; *Coruja das torres*, Portug. ; *Lechuza*, Span. ; *Barbagianni*, Ital. ; *Schleiereule*, German ; *Kerkuil*, Dutch ; *Perlugle*, Dan. ; *Tornuggla*, Swed. ; *Sepoocha*, Russ. ; *Youka*, Moorish ; *Báfa*, Arab. ; *Kuraya*, Hindu. ; *Ghubád*, Mahr.

♂ *ad.* Upper parts orange buff, vermiculated with grey and spotted with dark grey and white ; quills and tail barred with blackish grey ; facial disk silvery white, the space immediately round the eye dull rufescent ; ruff white tipped with orange and blackish grey ; under parts white, more or less spotted with blackish grey ; bill ivory white ; iris blue-black. Culmen 1·3, wing 11·2, tail 4·8, tarsus 2·4 inch. Female similar but larger. Throughout its range there is besides the above white form a dark form in which the upper parts are much darker and greyer, and the under parts vary from pale orange-buff to rich dark tawny.

Hab. Europe generally, from Denmark to the Mediterranean, and from the Azores, Canaries, and Madeira to the extreme east, but is very rare in Sweden and not found in Finland. Subject to climatic variation, it is found throughout Africa and Madagascar, the Indo-Malayan, Australian, Polynesian, Nearctic (except in the more northern portions) and Neotropical areas ; in Asia it does not appear to occur in Mongolia, E. Siberia, or Japan.

In its habits the Barn Owl is strictly nocturnal, and unless disturbed it does not leave its retreat during daylight. The note is a loud, harsh, weird shriek, and both the old and the young birds utter a deep snoring sound. Its food consists of rats, mice, moles, large insects, small birds, occasionally also of fish, but chiefly of mice. This Owl nests in hollow trees, towers, churches, barns, and dovecotes, not making any nest, and in April or May deposits 4 to 6, occasionally 7 white eggs, more elongated in shape than those of the other Owls, rather dull and glossless, averaging about 1·55 by 1·21.

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By

H. E. DRESSER, F.L.S., F.Z.S., &c.

Author of "The Birds of Europe"

PART II.—pp. 499–922

LONDON

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GYPS, Savigny, 1870.

710. GRIFFON VULTURE.

GYPS FULVUS.

Gyps fulvus (Gmel.), Syst. Nat. i. p. 249 (1788); (Naum.), i. p. 162, Taf. 2, xiii. Taf. 338; (Gould), B. of E. i. pl. 1; Newton, i. p. 1; Dresser, v. p. 373, pls. 319, 320; Sharpe, Cat. B. Br. Mus. i. p. 5; Blanf. F. Brit. Ind. Birds, iii. p. 320; Saunders, p. 311; Lilford, i. p. 77, pl. 39; *G. hispaniolensis* Sharpe, Cat. B. Br. Mus. i. p. 6 (1874); *G. fulvescens* Hume, Ibis, 1869, p. 356.

Vautour Griffon, French; *Griffo*, Portug.; *Buitre*, Span.; *Grifone*, Ital.; *Gänsegeier*, German; *Bjelogolovõi Griff*, Russ.; *Nissr*, Arab.; *Enisser*, Moor.

♂ *ad.* (S. Europe). Head and neck sparingly covered with white hairs; ruff composed of white down, which is more profuse on the hind-neck; upper parts stone-buff, the middle of the larger wing-coverts darker; wings and tail darker, the former washed with grey; under parts stone-buff, the crop patch darker, with lighter stripes; bill slate; iris hazel; legs light brown. Culmen 3·4, wing 30·0, tail 14·9, tarsus 4·0 inch. Sexes alike. The young birds have the feathers on the back, scapulars, and wing-coverts pointed, the ruff feathers elongate, and fawn-coloured.

Hab. Southern Europe; of rare occurrence in Central and Northern Europe; has once been obtained in Ireland; Africa south to Nubia; Asia east to Nepal and Sikhim, south to Khandish and the Deccan.

Is essentially a carrion eater, and will feed on any refuse. It hunts by sight alone, and does not discover a carcass if covered with grass or boughs. On the ground it is heavy and inert, and where carrion is plentiful will gorge to excess. On the wing however it is active and even graceful. It breeds in communities in the rocks, constructing a carelessly built nest of sticks lined with grass which is placed on the bare rock, and from February to April it deposits a single egg, or sometimes two, which are white, rather rough in shell, but occasionally, though rarely, the egg is slightly spotted with red. In size they average 3·63 by 2·72.

711. HIMALAYAN GRIFFON.

GYPS HIMALAYENSIS.

Gyps himalayensis, Hume, Rough Notes, p. 12 (1869); Sharpe, Cat. B. Br. Mus. i. p. 8; Blanford, F. Brit. Ind. Birds. iii. p. 321; *G. nivicola*, Severtzoff, Turk. Jevot. p. 111. pl. vii. (1873).

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Zaigan Tasso, Mongol.; *Gutıncar*, Tangut.

♂ *ad.* (Nepal). Differs chiefly from *G. fulvus* in having the shaft-stripes on the lower plumage very broad and the fourth, and not the third primary longest; upper parts pale isabelline white tinged with brown, and with obsolete pale shaft-stripes, the lower back whitish, the rump and upper tail-coverts buff; quills and tail blackish brown, the inner secondaries fulvous at the tips; crop-patch brownish with paler stripes; rest of under parts light brownish buff with broad whitish shaft stripes; under tail-coverts pale buff; bill pale horny green; cere pale brown; legs dingy greenish grey; iris brownish yellow. Culmen 3·7, wing 30, tail 15·5, tarsus 4·6 inch. Sexes alike. The young are dark brown strongly striped with whitish, and the wing and tail-feathers are nearly black.

Hab. The Himalayas from Cabul to Bhutan, Turkestan, Kan-su, Koko-nor, and Northern Tibet.

Is essentially a mountain bird, only descending to lower altitudes when compelled to do so in search of food, and in its general habits it agrees closely with *G. fulvus*. It breeds at high altitudes from late in December to early in March, constructing a platform of sticks in the most inaccessible parts of the rocks, usually on the face of a cliff, and occasionally it will take possession of a deserted Eagle's nest. Only a single egg is deposited, which is greyish white usually blotched and stained with reddish brown, and measures about 3·76 by 2·75.

VULTUR, Linn., 1766.

712. Black Vulture.

VULTUR MONACHUS.

Vultur monachus, Linn. Syst. Nat. i. p. 122 (1766); Dresser, v. p. 383, pl. 321; Sharpe, Cat. B. Br. Mus. i. p. 3; Blanford, F. Brit. Ind. Birds, iii. p. 317; *V. cinereus*, Gmel. Syst. Nat. i. p. 247 (1788); Naum. i. p. 155, Taf. i.; Gould, B. of E. i. pl. 2.

Vautour arrian, French; *Pica osso*, Portug.; *Buitre negro*, Span.; *Avvoltoio nero*, Ital.; *Kuttengeier*, German; *Grågrib*, Dan.; *Chernoburui Griff*, Russ.; *Kâla-gidh*, Hindu.

♂ *ad.* (S. E. Europe). Head and neck covered with hair-like feathers, ruff brownish; general colour of the plumage brownish, the quills and tail-feathers blackish brown; bill dark horn; cere pale mauve, naked skin of the neck livid flesh colour; legs and feet pearly white; iris brown. Culmen 3·3, wing 30·0, tail 17·0, tarsus 4·0 inch. The young bird is much darker, blackish brown in colour, wings and tail nearly black.

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Hab. Southern Europe; a rare straggler to the northern parts of Continental Europe; North Africa, rarer in the western portions, in East Africa south to Nubia; Asia Minor and Central Asia to India and China.

In habits it resembles the Griffon, and like that bird is a carrion eater. It breeds about the same time as the Griffon, but unlike that species almost always places its nest in a tree, more seldom on a cliff. The nest is a bulky structure of boughs and sticks, lined with small twigs and wool, and one egg is deposited, very rarely two, which is white, richly marked with dark red, and the average size is 3·51 by 2·76. Eggs from Eastern Europe are as a rule less richly marked than those from Spain.

NEOPHRON, Savigny, 1810.

713. Egyptian Vulture.

NEOPHRON PERCNOPTERUS.

Neophron percnopterus (Linn.), Syst. Nat. i. p. 123 (1766); (Naum.) i. p. 170, Taf. 3; (Hewitson), i. p. 5. pl. 2; Gould, B. of E. i. pl. 3; Newton, i. p. 6; Dresser, v. p. 391, pl. 322; Sharpe, Cat. B. Br. Mus. i. p. 17; Blanford, F. Brit. Ind. Birds. iii. p. 327; Saunders, p. 313; Lilford, i. p. 83, pl. 40.

Vautour d'Égypte, French; *Abutre*, Portug.; *Alimocho*, Span.; *Capovaccajo*, Ital.; *Schmutziger Aasvogel*, German; *Stervatnik*, Russ.; *Rakhma*, Arab.; *Rekhama*, Moor.; *Ak-baba*, Turk.; *Kusgun*, Tartar.

♂ *ad.* (Spain). General colour white, tinged with creamy buff; fore-part of the head and throat bare; feathers on the occiput and back of the neck elongated, lanceolate, tinged with creamy buff; primaries blackish margined with greyish buff on the outer web; secondaries varied, dark brown and buff; tail white; bare part of the head yellow; beak yellow at the base, otherwise dusky blackish; legs and feet dark flesh-colour, claws black; iris deep red. Culmen 2·8, wing 19·2, tail 10·0, tarsus 3·4 inch. Sexes alike. The young bird is blackish brown, the feathers tipped with fulvous, the bare part of the head with scattered blackish brown tufts; bare portions of the head livid; bill dusky yellowish at the base; legs livid greyish; iris brown.

Hab. Southern Europe, of rare occurrence north of the Alps; has twice occurred in England; Madeira, the Canaries, and Cape Verde Islands; Africa south to the Cape of Good Hope; Asia east to Western India. There it meets with

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N. ginginianus, which replaces it further east, and which is distinguishable by having the bill entirely yellow, and being smaller in size.

Like its allies it is a carrion feeder, and as nothing is too offensive for its palate it is, in southern climes, a most useful scavenger. Except when collected round a carcase it is usually to be seen singly or in pairs, never in flocks, and it likewise breeds in scattered pairs. Its nest, which is generally placed on a cliff, seldom on a tree, is a clumsy structure of sticks and grass, lined with grass, rags, or any other available soft material, and its eggs, 2 in number, occasionally however only 1, are deposited in April or May, and are richly blotched with rusty red or dark red on a white or yellowish white ground, and in size average 2·57 by 2·01.

GYPAETUS, Storr, 1874.

714. Bearded Vulture.

GYPAETUS BARBATUS.

Gypaetus barbatus (Linn.), Syst. Nat. i. p. 123 (1766); Naum. i. p. 180, Taf. 4, 5; Gould, B. of E. i. pl. 4; Dresser, v. p. 401, pls. 323, 324, 325; Sharpe, Cat. B. Br. Mus. i. p. 228; Blanf. F. Brit. Ind. Birds, iii. p. 328.

Gypaète des Alpes, French; *Quebranta-huesos*, Span.; *Avvoltojo barbuto*, Ital.; *Lämmergeier*, German; *Jagnjatnik*, Russ.; *Tochligöturän*, Tartar; *Bou-lachiah*, Arab.; *Argul*, Hindu.

♂ *ad.* (Spain). Crown and neck creamy white washed with rust-colour; bristles on the chin, lores, and a broad line passing over and round the eye deep black; upper parts blackish grey with a metallic gloss, the upper back and wing-coverts with a yellowish central line on the feathers; quills blackish grey washed with slate-grey; tail slate-grey margined with blackish brown, and wedge-shaped; under parts rich light rusty yellow, the throat and neck washed with rusty red; bill bluish horn, blackish at the tip; feet plumbeous; iris pale orange, the sclerotic membrane blood-red. Culmen 3·8, wing 31·0, tail 20·0, tarsus 4·1 inch. Sexes alike. The young bird of the year has the head, neck, and upper parts blackish brown, and the under parts dull rufous buff or brownish grey.

Hab. The mountains of Southern Europe and North Africa; is still found in the French and Spanish Pyrenees, but is nearly if not quite extinct in the Alps and Tyrol; Bosnia, Greece, Turkey, the Caucasus, and Asia Minor; the Himalaya

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as far east as Sikhim; North China, Tibet, Mongolia, and Dauria.

Inhabits the higher mountain ranges, and is solitary in its habits. It feeds on carrion, refuse, etc., like the Vultures, and though it is said to attack lambs and kids and even goats and chamois, it is doubtful if this is the case, except when the animal is weakly or in a dying state; it is a cowardly bird, and will allow itself to be bullied by a Falcon not a fourth of its size. Its note is a feeble, querulous cry. It breeds in the high mountains in a cave or on a shelf of the cliff, its nest being a bulky structure of sticks, etc., lined with wool, hair, or any soft material, and from the end of December to May, according to locality, it deposits 2 eggs, dull yellowish or rusty orange in colour, measuring about 3·18 by 2·47.

CIRCUS, Lacép., 1851.

715. Marsh-Harrier.

CIRCUS ÆRUGINOSUS.

Circus æruginosus (Linn.), Syst. Nat. i. p. 130 (1766): Gould, B. of Gt. Brit. i. pls. 24, 25; Hewitson, i. p. 44, pl. xvi. fig. 1; Newton, i. p. 127; Dresser, v. p. 415, pls. 326, 327; Sharpe, Cat. B. Br. Mus. i. p. 69; Radde. Orn. Caucas. p. 106, Taf. iii.; Blanf. F. Brit. Ind. Birds. iii. p. 387; Saunders, p. 315; Lilford, i. p. 67, pls. 34, 35; *C. rufus* (Gmel.), Syst. Nat. i. p. 266 (1788); (Naum.), i., p. 378, Taf. 37, 38, fig. 1; Gould, B. of E. pl. 32.

Busard des marais, French; *Aguilucho*, Span.; *Milhano*, Portug.; *Falco di padule*, Ital.; *Rohrweihe*, German; *Rietwouw*, Dutch; *Rödbrun Kjærhög*, Dan.; *Rostbrun Kärrhök*, Swed.; *Kamyschevoi Lun*, Russ.; *Kamysch-Kara*, Tartar; *Hedia*, Moor.; *Bouschrada*, Arab.; *Kutar*, *Kulesir*, Hindu.

♂ *ad.* (Spain). Crown and nape yellowish white striped with chocolate and blackish brown; back and scapulars blackish chocolate slightly marked with dark fulvous; tail ashy grey tipped with yellowish buff; primaries blackish brown, the inner ones marked with ashy grey, secondaries and larger wing-coverts dark silvery grey; smaller coverts blackish chocolate marked with whitish; chin dirty white; breast yellowish white marked with reddish brown; rest of under parts rusty brown striped or marked with darker brown; bill horn; legs and cere yellow; iris lemon yellow. Culmen 1·32, wing 14·8, tail 8·9, tarsus 3·3 inch. The old female is rather larger than the male, has the crown, nape, and chin creamy white, the two former striated with blackish; back white marked with umber, the rump ochreous; wings and tail dark brown

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white with a creamy white margin along the edge of the wing; throat warm ash-brown; rest of the under parts dark brown with a white band marked with brown across the breast. The young birds are dark chocolate-brown, the crown, nape, chin, and upper throat warm orange-buff, but they vary a good deal as regards the amount of buff on the head, and as in other Harriers dark blackish varieties occur, one figured by Dr. Radde (*l.c.*) being all dark brown, the upper parts with rufous margins to the feathers, and the tail grey washed with pale brown.

Hab. Europe; in Sweden seldom found above 60° N. Lat., and of very rare occurrence in Norway and Finland; Great Britain; Africa as far south as the Transvaal; Asia east as far as China and Japan and throughout India and Ceylon; in winter south to the Philippines.

Is essentially a marsh-haunting bird, and is generally to be met with in damp swampy places, especially where water-birds breed in numbers. In the northern portions of its range it is a migrant but a resident in the south. As a rule it is a silent bird, but in the breeding season the male may be heard uttering a clear, loud call *keew*, that of the female being a clear prolonged shrill *pee-ep*. It feeds on frogs, small snakes, small mammals, young birds, and eggs, and is very destructive to the breeding colonies of water-birds. Being however cowardly and not possessing much power of flight it will not attack any but the smaller or weakly birds, and it is doubtful if it dare even attack a rat. Its nest, which is a carelessly constructed bulky structure of sticks, reeds, and flags, is placed on the ground or on the masses of half floating marsh herbage, and its eggs, 4 to 5, seldom 6 in number, are usually laid in April or May, and are unspotted, greenish or blue-greenish-white in colour, rather roundish in shape, and measure about 1·95 by 1·51.

716. Eastern Marsh-Harrier.

CIRCUS SPILONOTUS.

Circus spilonotus, Kaup. in Jardine's Contrib. Orn. 1850, p. 59; Swinhoe. Ibis, 1863, pl. v.; Sharpe, Cat. B. Br. Mus. i. p. 58; David and Oust. Ois. Chine, p. 29; Blanf. F. Brit. Ind. Birds. iii. p. 388; Tacz. F. O. Sib. O. p. 112.

Khoulda, in Darasun.

♂ *ad.* (Siberia). Differs from the very old male of *C. æruginosus* chiefly in lacking all the rufous tinge on the upper tail-coverts and all the under parts; crown, nape, forepart of the back, scapulars, and edge of the wing white tinged with buff and streaked with blackish brown; back and inner secondaries blackish brown sparingly spotted or blotched with dull white; outer primaries blackish; the rest of the wing silvery grey; upper

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tail-coverts white faintly barred with grey; tail grey with a brownish tinge, the outer feathers whiter; under parts white, the chin, throat, and breast streaked with blackish brown; soft parts as in *C. æruginosus*. Culmen 1·6, wing 15·5, tail 9·25, tarsus 3·5 inch. The female is larger and differs from that of *C. æruginosus* in having the crown blackish brown marked with rufous buff, and the tail with dark bands which are nearly obsolete in very old birds. The young bird closely resembles that of *C. æruginosus*.

Hab. Of doubtful occurrence in India; South-east Siberia, Mongolia, China, Burma, and Japan, south to the Philippines and the Malay peninsula.

In habits it closely resembles *C. æruginosus*, but is said to be more kite-like in appearance. Its food is similar to that of the Marsh-Harrier, and like that species it feeds largely on the eggs of ground-nesting birds. Its nest, which is placed in damp marshy places, often on masses of floating herbage, is a clumsy structure of dry herbage, and the eggs, which are usually deposited in June, are white tinged with greenish blue and measure about 1·90 by 1·50.

717. Montagu's Harrier.

CIRCUS CINERACEUS.

Circus cineraceus (Montag.), Orn. Dict. i. sheet K. 3. (1802); (Naum.) i. p. 402, Taf. 40; Gould, B. of E. i. pl. 35; Hewitson, i. p. 49, pl. xvi. fig. 3; Newton, i. p. 38; Dresser, v. p. 423, pl. 328; Blanf. F. Brit. Ind. Birds, iii. p. 383; Saunders, p. 319; Lilford, i. p. 73, pls. 37, 38; *C. cinerarius*, Leach, Syst. Cat. Mam. etc. Brit. Mus. p. 9. (1816); *C. cinerascens*, Steph. Gen. Zool. xiii. p. 41 (1825); Gould, B. of Gt. Brit. i. pl. xxvii; *C. pygargus*, Sharpe, Cat. B. Br. Mus. i. p. 64; David and Oust. Ois. Chine, p. 28 (nec. Linn.); *C. montagui*. Vieill. Nouv. Dict. xxxi. p. 411 (1819).

Busard cendré, French; *Aguia caçadeira*, Portug.; *Cenizo*, Span.; *Albanella minore*, Ital.; *Wiesenweihe*, German; *Graauwe Kuikendief*, Dutch; *Graa Kjaerhög*, Dan.; *Mindre Kärrhök*, Swed.; *Lugovoi Lun*, Russ.; *Bouschrada*, Arab.; *Dastmal*, Hindu.; *Pandouvi*, Beng.

♂ *ad.* (Spain). Head, neck, breast, and upper parts ashy blue-grey darker on the upper parts; secondaries with two hidden and one conspicuous blackish bar; primaries black; tail ashy blue-grey; the outer feathers paler and barred with reddish; under parts greyish white striped with chestnut-red; bill blackish horn; cere, iris, and legs yellow. Culmen 1·05, wing 14·8, tail 10·0, tarsus 2·5 inch. The female is some-

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what larger and has the upper parts brown varied with rusty rufous, the quills and middle tail-feathers tinged with grey and barred with blackish brown; the outer tail-feathers greyish white tinged with rufous and barred with brown; under parts warm ochreous striped with rusty brown. Young birds have the under parts tinged with rufous and unstriped. This species is subject to melanism and uniform blackish brown varieties are occasionally met with.

Hab. A summer visitor to the British Islands and Continental Europe generally, more numerous in the south. Of occasional occurrence in Sweden, and has once been obtained in Finland; Africa south to Cape Colony; Asia east to China, wintering in India and Ceylon.

Like its allies it affects open plains and marshes, and never perches or roosts in a tree, but passes the night on the ground amongst the grass or aquatic plants. It flies low and quarters the ground carefully. It feeds on insects, mice, small reptiles, small birds, and the eggs of ground-nesting species, and in Spain wherever there were colonies of Terns, Stilts, etc., I found nests of this Harrier. The nest is placed on the ground or on floating masses of reeds, and is constructed of grass and flags of less coarse materials and better made than that of the Hen-Harrier, and the eggs, 4 to 6 in number, are usually deposited in May and resemble those of *C. æruginosus* but are smaller, measuring about 1·49 by 1·25.

718. Pallid Harrier.

CIRCUS SWAINSONI.

Circus swainsoni, Smith, S. Afr. Quart. Journ. i. p. 384 (1830); Dresser, v. p. 441, pl. 330; ? *C. macrourus* (S. G. Gmel.) N. Com. Petr. xv. p. 439 (1771); Sharpe, Cat. B. Br. Mus. i. p. 67; Blanf. F. Brit. Ind. Birds, iii. p. 381; *C. pallidus*, Sykes, P.Z.S. 1832, p. 80; Gould, B. of E. i. pl. 34; Naum. xiii. p. 154, Taf. 348.

Busard pâle, French; *Albanella chiara*, Ital.; *Steppenweihe*, German; *Steppehög*, Dan.; *Blek Kärrhök*, Swed.; *Stepnoi Lun*, Russ.; *Ach-Asalagan*, Tartar.; *Dastmal*, Hindu.

♂ *ad.* (India). Upper parts blue-grey, the head paler; upper tail-coverts white barred with dark blue-grey; middle tail-feathers blue-grey, the rest white barred with dark blue-grey; primaries pale at the base becoming blackish towards the tip, the first dark ashy blue; under parts white, the flanks indistinctly striped; bill blackish; cere, iris, and legs yellow. Culmen 1·15, wing 13·8, tail 9·2, tarsus 2·9 inch. The female resembles that of *C. cineraceus* but is paler and less rufous, and the ruff is more distinctly defined.

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Hab. Central, Southern, and Eastern Europe, of rare occurrence in Scandinavia, and only twice recorded from Finland; Africa in winter, south to the Cape; Asia, throughout India, Ceylon and Burma east to the Yangtse river in China.

In habits it resembles the Hen-Harrier but is less of a marsh-bird and frequents the steppes, fields, etc.; its flight is slow, a few beats of the wings alternating with a sailing motion, and it usually perches on the ground, on a mound or stone. Its food consists of insects, reptiles, small rodents, and birds, especially when the last are weakly or wounded. Its nest is a depression in the ground lined with grass-bents and leaves, and its eggs, 4 to 5 in number, are deposited in May and are bluish white, roundish in shape, and sometimes marked or spotted with rich deep red. In size they average 1·68 by 1·34.

The chief distinctions between the European Harriers are as follows:—

C. æruginosus.—The ruff is interrupted in front, and the folded wings do not reach to the end of the tail.

C. cineraceus.—Ruff interrupted in front; first four primaries only emarginate on the outer web, the emargination on the second fully an inch beyond the wing-coverts; flanks striped with rufous in the adult male.

C. swainsoni.—Ruff complete; emargination on the second primary close to and almost hidden by the wing-coverts; the four first primaries only emarginate on the outer web; upper tail-coverts in the adult male white barred with grey.

C. cyaneus.—First five primaries emarginate on the outer web; ruff complete and not interrupted; upper tail-coverts in the adult male white.

719. Hen-Harrier.

CIRCUS CYANEUS.

Circus cyaneus (Linn.), Syst. Nat. i. p. 126 (1766); Gould, B. of E. i. pl. 33; Hewitson, i. p. 47, pl. xvi. fig. 2; Gould, B. of Gt. Brit. i. pl. 26; Newton, i. p. 132; Dresser, v. p. 431, pl. 329; Sharpe, Cat. B. Br. Mus. i. p. 52; David and Oust. Ois. Chine, p. 27; Blanf. F. Brit. Ind. Birds, iii. p. 384; Saunders, p. 317; Lilford, i. p. 69, pl. 36; *C. pygargus*, Naum. i. p. 391, Taf. 38, fig. 2, Taf. 39.

Busard St. Martin, French; *Pilharatos*, Portug.; *Ave de San Martin*, Span.; *Albanella reale*, Ital.; *Kornweihe*, German; *Blaauwe Kuikendief*, Dutch; *Blaa Kjærhög*, Dan. and Norweg.; *Blå-Kärrhök*, Swed.; *Sinihaukka*, Finn.; *Polevoi Lun*, Russ.; *Bou-hasin*, Moor.

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♂ *ad.* (Scotland). Upper parts and middle tail-feathers ashy blue-grey, rather darker on the back; primaries blackish; upper tail-coverts white; lateral tail-feathers greyish white, narrowly barred with brownish; breast paler than the head, the rest of the under parts gradually fading to white; bill blackish horn; cere, iris, and legs yellow. Culmen 1·1, wing 13·4, tail 8·9, tarsus 2·62 inch. The female has the forehead and a faint superciliary stripe buff; upper parts dark brown, the head and neck striped, the back well marked with warm buff; upper tail-coverts white, sparsely dotted with rufous; tail dark brown with a light tip, barred with greyish brown and rufous buff; under parts buff striped with dull brown and reddish brown; iris brown; legs and cere yellow.

Hab. Europe generally, from Lapland to the Mediterranean; British Islands; Africa south to Abyssinia; Asia east through India to China, Tibet, Mongolia, Japan, and Siberia, and southward to the central provinces of India.

Frequents open places, heaths, plains, and marshes, and is not found in the woodlands. Its flight is graceful, not high above the ground, and it will hover every now and again when quartering. It feeds on small mammals and birds, insects, reptiles, etc., and like its allies it feeds largely on the eggs of ground-nesting birds. Its nest is a depression in the ground, frequently in a damp locality, and consists merely of a few sticks and heather-bents with a little dry grass. The eggs, 4 to 5 in number, are generally deposited late in May, and are bluish white, usually unmarked, and measure about 1·81 by 1·39. I have, however, seen eggs slightly, and others somewhat boldly, marked with dark red.

720. Pied Harrier.

CIRCUS MELANOLEUCUS.

Circus melanoleucus (Forster), Ind. Zool. p. 12, pl. ii. (1781); David and Oust. Ois. Chine, p. 29; Sharpe, Cat. B. Br. Mus. i. p. 61; Tacz. F. O. Sib. O. p. 120; Blanf. F. Brit. Ind. Birds, iii. p. 385.

Pahatai, Hindu.; *Thane-Kya*, Burm.

♂ *ad.* (India). Head, neck, breast, back, the middle wing-coverts, and a band to the end of the wing glossy black; scapulars black marked with grey; outer primaries black but not so glossy; rump and upper tail-coverts white; the latter faintly barred with grey; tail grey tipped with white; edge of wing and least wing-coverts white, the rest of the wing grey; lower breast and under parts with the under wing-coverts pure white; bill bluish at the base, otherwise blackish; cere dusky yellow; legs orange-yellow; iris bright yellow. Culmen 1·0, wing 13·7, tail 8·5, tarsus 3·2 inch. The female is larger, has the black in the plumage replaced

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by dark brown, the crown and nape feathers with rufous margins, the ruff of dull white feathers with brown shaft-stripes well defined, the tail grey with blackish brown cross-bars, and the under parts white, the throat and breast broadly, the abdomen narrowly striped with dark brown. The young bird has the under parts rufous brown darker streaked, the nuchal patch whitish, streaked with brown, the outer tail-feathers rufous in ground colour and no grey on the wings.

Hab. The eastern part of India; Burma; Mongolia; south-eastern Siberia; northern China; Cochin China; Siam; Malacca, and the Philippines.

Affects the plains, especially damp swampy localities, and rice-fields. Its food, like that of its allies, consists of reptiles, frogs, insects, small rodents, and birds. Its nest, a somewhat slight structure resembling that of *C. cineraceus*, is placed on the ground, usually in a damp or swampy locality, and the eggs, 4 to 5 in number, which are usually deposited in June resemble those of *C. cineraceus*, and measure about 1·69 by 1·37.

BUTEO, Cuvier (1800).

721. The Buzzard.

BUTEO VULGARIS.

Buteo vulgaris, Leach, Syst. Cat. Mamm. &c. p. 10 (1816); Gould, B. of E. i. pl. 14; id. B. of Gt. Brit. pl. 6; Hewitson, i. p. 38, pl. xiv. figs. 1, 2; Newton, i. p. 109; Dresser, v. p. 449, pl. 331; Sharpe, Cat. B. Br. Mus. i. p. 186; Saunders, p. 321; Lilford, i. p. 16. pl. 9; *Falco buteo*, Linn. Syst. Nat. i. p. 127; (1766); Naum. i. p. 346, Taf. 32, 33; *B. plumipes*, Hodgs. P.Z.S. 1845, p. 37; Sharpe, tom. cit. p. 180; *B. japonicus* (Temm. and Schlegel), Faun. Jap. Aves, p. 16, pls. vi. vi.b. (1850); *B. desertorum*, Blanf. F. Brit. Ind. Birds, iii. p. 393 (partim, nec. Daud.).

Buse commune, French; *Minhôto*, Portug.; *Pella, Arpella*, Span.; *Pojana*, Ital.; *Mäusebussard*, German; *Buizerd*, Dutch; *Musvaag*, Dan. and Norweg.; *Ormvråk*, Swed.; *Käärmehaukka*, Finn.; *Obiknovennui Saritcha*, Russ.

♂ *ad.* (Germany). Upper parts dark earth-brown with a faint metallic gloss and slightly varied with dull reddish brown, the forehead and nape marked with dull white; quills blackish brown on the outer web, the basal half of the inner web white barred and marbled with brown; tail dark brown tipped with light brown, and barred with greyish brown; under parts dark brown marked and barred with yellowish white and dull white, the throat and sides of head whiter; beak blackish horn lighter at

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the base; cere and legs yellow, the tarsus bare or sometimes partly feathered in front; iris brown. Culmen 1·3, wing 14·8, tail 8·8, tarsus 3·1 inch. Female similar but somewhat larger. This species is subject to extreme variety, from nearly white to almost uniform blackish brown, and the feathering on the tarsus is also extremely variable, but is oftener seen on eastern specimens.

Hab. Europe generally, north as far as Trondhjem and Kajana; British Islands; Madeira, Canary, and Cape Verde Islands; rare in N. Africa; Asia as far east as Japan, India and Ceylon in winter.

Is a migrant in the northern portion of its range, but as a rule a resident in the southern part. It is somewhat heavy and lazy, seldom attacking any but young, weakly, or small birds, or mammals, its food consisting chiefly of small rodents, reptiles, large insects, larvæ, and even carrion. It may often be seen at a considerable altitude, circling on the wing with ease, and uttering its clear, loud, mewing cry. It frequents both the woodland and the open heaths and rocky localities. It is a somewhat early breeder and nests either in the rocks or on non-evergreen trees, sometimes high up and at others at no great altitude. The nest is constructed of boughs and twigs, lined with grass, wool, moss, and even a few feathers, or sometimes a deserted crow's nest is repaired and utilized. The eggs, 2 to 4 in number, are deposited from late in March to May and are bluish white, sometimes almost unmarked but generally tolerably well marked and blotched with violet-grey, or rarely pale brown shell-markings and reddish brown surface-spots, roundish in shape, and measure about 2·21 by 1·81.

722. Subsp. Buteo zimmermannæ.

Buteo zimmermannæ, Ehmcke, Ber. Febr. Sitz. Allg. Deutsche Orn. Gesellsch. No. 2 (1893); Kleinschmidt, Orn. Monatsschr. 1898, p. 214, Taf. x.

♀ *ad.* (Type). Differs from the adult of *B. vulgaris* in being smaller, and very rufous in tone of colour, and from that of *B. desertorum* in having the abdomen and under tail-coverts white, distinctly barred with rufous, the tail also being distinctly barred. (Bill damaged), wing 14·32, tail 8·25, tarsus 2·90 inch. The young birds of *B. vulgaris*, *B. desertorum*, and of the present subspecies are much alike.

Hab. Eastern Germany and North Russia as far north as Archangel.

In habits it does not appear to differ from *B. vulgaris*.

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723. Subsp. Buteo desertorum.

Buteo desertorum (Daud.), Traité d' Orn. ii. p. 162, (1800); Layard, B. of S. Afr. p. 9; Shelley, B. of Egypt, p. 201; Dresser, v. p. 457, pl. 332; Sharpe, Cat. B. Br. Mus. i. p. 179; Blanf. F. Brit. Ind. Birds. iii. p. 393 (partim); *B. cirtensis*, Levaill jr. Expl. Sc. de l'Alg. pl. 3. (1850); *B. menetriesi*, Bogd. Ptitsui. Kavkaza, p. 45 (1879).

Baffa, Arab.

♂ *ad.* (N. Africa). Differs from *B. vulgaris* in being as a rule smaller, in having the feathers on the upper parts margined with rusty red, the tail with a blackish brown subterminal band, the middle feathers rusty red with obsolete bars, and the under parts pale rufous, most of the feathers with dark centres. Culmen 1·4, wing 14·5, tail 8·2, tarsus 2·7 inch. The female is similar but rather larger. The young bird resembles *B. vulgaris* but is smaller, has the upper parts marked with rufous and the thigh-feathers slightly marked with rufous.

Hab. South-eastern Europe; of accidental occurrence in south-western Europe, but in eastern Europe as far north as Archangel; Africa south to the Cape Colony; Asia as far east as India where it is a winter visitant.

In habits it resembles *Buteo vulgaris*, of which species it is a rufous, desert form, and in fact Mr. Blanford (l.c.) unites the two specifically, a course which I do not feel justified in following. The African Buzzard is said to be a more graceful and active bird than *B. vulgaris* and more of an insect feeder, on the shores of the Bosphorus feeding chiefly on grasshoppers, when in the autumn these latter abound.

Its nest is placed in a tree at no great altitude, or else in a convenient cleft in a rock and is constructed of sticks and twigs, lined with grass and wool. The eggs, 2 to 3 in number, are usually deposited in April, and resemble those of *B. vulgaris*, but are, as a rule, less marked with reddish-brown than those, and measure about 2·08 by 1·65.

724. Upland Buzzard.

BUTEO LEUCOCEPHALUS.

Buteo leucocephalus (Hodgson), P.Z.S. 1845, p. 37; Blanf. F. Brit. Ind. Birds, iii. p. 392; *B. aquilinus*, Blyth, J.A.S. Beng. xiv. p. 176 (1845); *B. hemilasius*, Temm. and Schlegel. Faun. Jap. Aves, p. 18, pl. vii. (1850); Sharpe, Cat. B. Br. Mus. i. p. 182; David and Oust. Ois. Chine, p. 19, pl. 9; (Tacz.) F. O. Sib. O. p. 60; *B. ferox*, Sharpe, tom. cit. p. 178. pl. viii. (1874 partim, nec. Gmel.)

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♂ *ad.* (Dauria). Head and neck white broadly but sparingly streaked with pale brown; upper parts pale dull earth-brown some of the feathers with pale margins; quills dark brown the basal portion of the inner webs white; tail greyish barred with dark brown; under parts white streaked with brown; tarsus feathered in front from one- to two-thirds of its length; bill bluish horn; cere greenish yellow; legs and feet wax-yellow; iris light buff. Culmen 1·9, wing 19·15, tail 10·75, tarsus 3·7 inch. Male similar but somewhat smaller.

Hab. Kashmir, Sikhim, Tibet, China, Eastern Siberia; Japan as an accidental visitant.

Is nearly related to *B. ferox* and bears much the same relation to that species as *B. vulgaris* does to *B. desertorum*.

In habits also it resembles that species, and is generally to be met with in the open country. It breeds commonly in south-eastern Siberia, in Dauria on the steppes near the Onon river, and in the vicinity of Argoun, the nest being placed on a rock. The eggs 2 to 4 in number are usually deposited in May and vary, from white very sparingly marked, to bluish white or white with a faint reddish tinge richly spotted and blotched with reddish brown, and in size average 2·44 by 1·92.

725. Long-legged Buzzard.

BUTEO FEROX.

Buteo ferox (S. G. Gmel.), N. Comm. Petrop. xv. p. 442, tab. x. (1769); Shelley, B. of Egypt, p. 201, pl. ix; Dresser, v. p. 463, pl. 333; Blanf. F. Brit. Ind. Birds, iii. p. 390; *B. rufinus* (Cretzschm), in Rüpp. Atlas. p. 40, Taf. 27 (1826); *B. leucurus*, Naum. in Naumannia, 1853, p. 256, pl. 5; *B. nigricans*, Severtz. Turk. Jevot. pp. 63 and 112 (1873).

Weissschwänziger Adlerbussard, German; *Stepnoi Sarytsch*, Russ.; *Zard*, Tartar; *Chuhumar*, Hindu.

♂ *ad.* (S. Russia). Crown and nape creamy rufous and brown the white bases of the feathers showing through; upper parts dark brown margined with tawny rufous, the dull grey bases of the wing-coverts showing here and there; quills dark brown, the outer web washed with silvery grey, the basal part of the inner web of the primaries white; tail creamy white at the base, darkening to creamy rufous towards the tip; sides of head, chin, throat, and upper breast creamy white washed with rufous, the two first with dark shaft-stripes; lower breast and under parts tawny rufous mixed with brown, the flanks and sides chestnut; under tail-coverts creamy rufous; bill horn-blue, darker towards the tip; cere yellowish green; legs dull lemon-yellow; iris tawny yellowish.

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Culmen 1·8, wing 16·7, tail 9·5, tarsus 3·7 inch; tarsus feathered to about 2 inches from the base of the toes. Female similar but rather larger. Young birds are darker and browner, have the under parts dull rufous striped with blackish brown, and the tail grey barred with blackish brown and slightly marked and tipped with rufous. This species is also subject to melanism, and very dark varieties are sometimes met with.

Hab. South-eastern Europe, south through Asia Minor and Palestine; East Africa, south to Nubia and Abyssinia; Central Asia, Persia; the Himalayas east to Sikhim and N. W. India in winter.

In general habits it resembles *B. vulgaris* but is a heavier and more sluggish bird, frequenting open plains and steppes, and feeds on small mammals, lizards, and snakes, or, where there is water, on frogs. Its nest is constructed of grass or flags, lined with hair, wool, or rags, and is generally placed on the ground or on a rock, though occasionally on a tree. The eggs, 3 or 4, occasionally 5 in number, are usually deposited in April are white faintly clouded with reddish, and more or less spotted and blotched with rich brownish red, in size averaging 2·32 by 1·82.

BUTASTUR, Hodgson, 1843.

726. Grey-faced Buzzard-eagle.

BUTASTUR INDICUS.

Butastur indicus (Gmel.), Syst. Nat. i. p. 264 (1788); Sharpe, Cat. B. Br. Mus. i. p. 297; Blanf. F. Brit. Ind. Birds, iii. p. 365; Seebohm, B. Jap. Emp. p. 196; Tacz. F. O. Sib. O. p. 69.

Sashiba, Hachikuma, Japan.

♂ *ad.* (Japan). Head and neck greyish; sides of forehead and lores white with black bristles; upper parts brown, the feathers with dark shafts, the nape marked with white; wing-coverts and secondaries externally more or less marked with rufous; quills brown, the inner webs reddish brown, tipped with blackish and barred with brown; tail brown above with blackish cross-bars, and whity brown below; throat white with one median and two lateral dark stripes; under parts ashy brown tinged with rufous, the upper breast with a few white spots; lower breast and abdomen sparsely barred with brown; under tail-coverts white; base of bill and cere orange yellow, the end of the bill black; legs feet and iris bright yellow. Culmen 1·3, wing 13·0, tail 7·7, tarsus 2·2 inch. Sexes alike.

Hab. South-eastern Siberia, where it is of rare occurrence in the Ussuri country; Japan; China; Tenasserim; Malacca; the Malayan islands south to New Guinea.

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I do not find anything on record respecting the habits of this species, except that the Abbé David states that it breeds regularly in the mountains near Pekin, that its flight is swift and easy, unlike that of the true Buzzards, and that its cry consists of two notes and is also quite characteristic.

Mr. Alan Owston of Yokohama says that it breeds at Fuji, the Sagami Hills, Oiso, Fukushima, and Iwaki in Japan, nesting on "Momi," "Momiso," and pine trees, at 20 to 150 feet from the ground, and that he received its eggs, 4 in number, taken from the 16th to the 20th May.

ARCHIBUTEO, Brehm, 1828.

727. Rough-legged Buzzard.

ARCHIBUTEO LAGOPUS.

Archibuteo lagopus (Gmel.), Syst. Nat. i. p. 260 (1788); Naum. i. p. 359 Taf. 34; (Hewitson), i. p. 39, pl. xiv. fig. 3; (Gould), B. of E. i. pl. 15; id. B. of Gt. Brit. i. pl. viii.; (Newton), i. p. 115; Dresser, v. p. 471, pls. 334, 335; Sharpe, Cat. B. Br. Mus. i. p. 196; Tacz. F. O. Sib. O. p. 56; (Saunders), p. 323; Ridgway, p. 240; Lilford, i. p. 19, pl. 10; Newton, Ootheca Wolleyana, i. p. 121, pls. v, vi.

Buse pattue, French; *Poiana calzata*, Ital.; *Rauhfuss-Bussard*, German; *Ruigpoot Buizerd*, Dutch; *Laadenbenet Musevaage*, Dan.; *Fjeldvaage*, Norw.; *Fjellvråk*, Swed.; *Poaimas*, *Biekkan*, Lapp.; *Piekana*, Finn.; *Kaniuk machnogii*, Russ.

♂ *ad.* (Sweden). Crown and nape creamy white, boldly striped and blotched with dark brown; upper parts dark brown, marked with creamy white and pale rufous, the lower back and rump almost uniform dark brown; quills dark brown, the basal half of the inner web white; tail white, becoming greyish towards the end, cross barred with blackish brown; throat and upper breast brown, varied with pale rufous and creamy white; lower breast creamy white, sparingly barred with dark brown; rest of the under parts with the legs white, tinged with rufous, and boldly barred with blackish brown; tarsus feathered in front and on the sides to the base of the toes; bill blackish horn, bluish at the base; feet yellow; iris brown. Culmen 1·4, wing 17·0, tail 9·5, tarsus 2·8 inch. Female similar, but rather larger. The young bird is darker, and has the throat, breast, and belly striped, not barred, the lower parts almost uniform dark brown.

Hab. Northern Europe and Asia, breeding from 56° N. lat. up to the extreme north in Europe, and Kamchatka in Asia; in winter and on passage visiting Great Britain, Central, and even Southern Europe, Southern Siberia and Japan; has occurred in Alaska.

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Differs in habits from *B. vulgaris*, in that it is more a bird of the open, rocky country, and does not frequent woodlands. Its cry is the same but deeper and more melancholy in tone. It feeds on lemmings, and other small mammals, frogs, lizards, even insects, and also on young birds. Its nest is either in a tree standing in the open, placed on the ground, or on a cliff or rock, and is constructed of sticks lined with grass, and 3 to 4, sometimes 5 eggs are deposited, usually in May or June, but in a year when lemming were very numerous, fresh eggs were taken in Norway as late as the 9th September. These resemble the eggs of *B. vulgaris*, but are often more richly coloured, and measure about 2·25 by 1·75.

728. Himalayan Rough-legged Buzzard.

ARCHIBUTEO HEMIPTILOPUS.

Archibuteo hemiptilopus, Blyth, J.A.S.B. xv. p. 1 (1846) ; Blanf. F. Brit. Ind. Birds, iii. p. 395 ; *A. strophiatus* ; Hodgs. in Gray's Zool. Misc. p. 81 (1844 descr. nullâ) ; Gray Cat. M. &c. Coll. Hodgs. p. 39 (1846, descr. nullâ) ; Sharpe, Cat. B. Br. Mus. i. p. 199 pl. vii. fig. 2 ; Berezovski and Bianchi, Ptitz. Gan-su, p. 32.

♂ *ad.* (Nepal). Upper parts brown, the feathers on the nape and upper back margined with rufous, the base of the nuchal feathers white ; upper tail-coverts with rufous or buff bars and tips ; tail above brown, tinged with rufous, below whitish, with dark bars ; under parts white, marked with brown on the throat and breast ; flanks and thigh feathers brown ; bill dusky horn, the base of the mandible laterally yellowish ; toes and naked part of tarsus livid waxy. Culmen 1·9, wing 19·75, tail 11·0, tarsus 3·45 inch.

Hab. Sikhim, Nepal, and Kulu ; Shanghai in China ; Ordos ; south-west and south-east Kan-su, and the Amdos plateau ; Tibet.

I find nothing on record respecting the habits or nidification of the present species. Like some of the Buzzards it appears to be subject to partial melanism.

HIERAETUS, Kaup, 1844.

729. Booted Eagle.

HIERAETUS PENNATUS.

Hieraetus pennatus (Gould), Syst. Nat. i. p. 272 (1788) ; (Naum.), xiii. p. 58, Taf. 343 ; (Gould), B. of E. i. pl. 9 ; (Dresser), v. p. 481, pls. 336, 337, 351, fig. 2 ; (Sharpe), Cat. B. Br. Mus. i. p. 253 ; Blanf. F. Brit. Ind. Birds, iii. p. 344 ; (Tacz.) F. O. Sib. O. p. 25, *H. minutus* (Brehm), Vög. Deutschl. p. 29, Taf. 2, fig. 2 (1831).

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Aigle botté, French; *Aguia pequena*, Portug.; *Aguilucho, Aguila calzada*, Span.; *Aquila minore*, Ital.; *Zwergadler*, German.

♂ *ad.* (Spain). Forehead and lores white; head and neck warm sandy isabelline, streaked with brown; upper parts dark earth-brown, the scapulars and wing-coverts varied with sandy grey; quills dark brown, secondaries tipped with whitish brown; tail dark brown, tipped with pale isabelline, the outer feathers with obsolete darker bars; under parts white, the breast streaked with reddish brown, flanks also faintly striped; legs feathered to the toes; bill bluish at the base, black at the tip; cere and feet wax yellow; iris light hazel. Culmen 1·5, wing 14·0, tail 8·5, tarsus 2·6 inch. Female similar but larger. This Eagle is subject to considerable variation in both sexes, some being darker and more rufous, others again blackish brown, and others again have a white shoulder patch more or less developed. Young birds are generally more rufous than the adult.

Hab. Southern Europe, rarer in Central Europe, commoner in the south-east and south-west; Africa south to the Cape; Asia Minor, Central Asia, India, Ceylon, and Burma; of accidental occurrence in Dauria.

Frequents the woodlands and in its general habits somewhat resembles the Buzzards but is more active and predacious. It feeds on small mammals and birds, and is graceful and elegant on the wing, and not a shy bird. Its cry is a clear *ke, ke, ke*. It selects a high deciduous tree for its nest, constructing it of sticks with fresh green leaves or fresh pine-twigs for a lining. The eggs, usually two in number, are deposited late in April or in May, and are white tinged with greenish, rarely faintly marked with rufous, and are rather more coarse in grain of shell than those of the Goshawk; in size they average about 2·21 by 1·79.

730. Bonelli's Eagle.

HIERAETUS FASCIATUS.

Hieraetus fasciatus (Vieill.), Mém. Linn. Soc. Paris, p. 152 (1822); (Sharpe), Cat. B. Br. Mus. i. p. 250; (Dresser), v. p. 575, pls. 351, fig. 1, 352, 353; Blanf. F. Brit. Ind. Birds, iii. p. 342; *H. bonellii* (Temm.) Pl. Col. i. pl. 288 (1824); Naum. xiii. p. 33, Taf. 341; Gould, B. of E. i. pl. 7.

Aigle à queue barrée, French; *Aguila perdicera*, Span.; *Aquila del Bonelli*, Ital.; *Habichts-Adler*, German; *Morangi*, Hindu.: *Agab*, Arab.; *Teir-Thum*, Moor.

♂ *ad.* (Morocco). Upper parts dark brown, the feathers on the head and back white on the basal portion; dorsal feathers to some extent,

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scapulars, and wing-coverts narrowly, and those on the head and nape more broadly margined with light brown; quills deep brown, mottled with white on the basal part of the inner web; middle tail feathers brownish grey, the rest grey on the inner web, all with six or seven cross bars, and a broad subterminal band of blackish; under parts white, striped with blackish brown, the abdomen, thighs, and legs washed with warm buff; legs feathered to the toes; bill dull bluish at the base, otherwise black; cere and feet yellow; iris orange-brown. Culmen 2·1, wing 18·6, tail 11·6, tarsus 3·8 inch. Female similar but larger. The young bird has the upper parts umber brown, and the under parts dull reddish, striped with blackish.

Hab. Southern Europe; Africa south to Damaraland, commoner in the west than in the east; Arabia; Asia Minor, and Asia east to India.

Resembles the Goshawk more than the true Eagles, stronger and swifter on the wing, its flight somewhat resembling that of the Goshawk. It is essentially a clean feeder, disdaining carrion, and preying on water-fowl, rabbits, and birds of various kinds as large as the Little Bustard. Its nest is usually placed on the shelf or in a fissure of a cliff, and is constructed of sticks and boughs with a lining of fresh green twigs and leaves, and in February or March two eggs are deposited which are white with a faint blue greenish tinge sparingly marked with rusty red, somewhat smooth in texture of shell and in size averaging 2·65 by 2·02.

AQUILA, Briss., 1760.

731. Greater Spotted Eagle.

AQUILA MACULATA.

Aquila maculata (Gmel.), Syst. Nat. i. p. 258 (1788); Blanf. F. Brit. Ind. Birds, iii. p. 340; Saunders, p. 325; *A. nœvia*, Gmel.? (Naum.), i. p. 217, Taf. 10, 11; Gould, B. of E. i. pl. 8; id. B. of Gt. Brit. i. pl. 3; Hewitson, i. p. 18, pl. 5; Newton, i. p. 20; Lilford, i. p. 3, pls. 3, 4, 5; *A. clanga*, Pall. Zoogr. R.A. i. p. 351 (1811); Naum. xiii. pls. 342, 346; Dresser, v. p. 499, pl. 339; Sharpe, Cat. B. Br. Mus. i. p. 248; Tacz. F. O. Sib. O. p. 22.

Aigle criard, French; *Schreiadler*, German; *Större-Skrikörn* Swed.; *Podorlik bolschoi*, Russ.; *Kaljanga*, Hindu.

♂ *ad.* (India). Entire plumage blackish brown, the mantle with a metallic purplish gloss; quills blackish; tail unbarred, the middle feathers tinged with grey; upper and under tail-coverts marked with white; bill

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dark horn; cere and feet yellow; iris brown. Culmen 2·35, wing 20·2, tail 11·0, tarsus 4·45 inch. Female similar, but larger. The young bird differs in being profusely spotted with greyish or brownish buff, the scapulars and larger coverts having large ovate spots, the lesser coverts smaller drop-shaped spots; secondaries broadly tipped with greyish; feathers on the rump and upper tail-coverts with the terminal portion brownish buff; under parts deep brown, striped with tawny brown; tarsal feathers dark brown, marked with creamy white; under tail-coverts creamy buff.

Hab. Central and Southern Europe, straying occasionally to Northern Europe and Great Britain; Africa, south to Kordofan and Abyssinia; Asia, east throughout India and Northern Burma; South Eastern Siberia as a rare straggler.

In habits this is a heavy somewhat sluggish bird frequenting open places as well as wooded tracts and damp marshy localities. It feeds on frogs, reptiles, large insects, fish, &c., and does not disdain carrion. Its note is a yelping cry *jeb, jeb, jeb.* Its nest which is constructed of sticks and dry branches intermixed with grass and leaves, is usually placed on a tree, sometimes however on a high bush, and in April or May two eggs are deposited which are white, somewhat sparingly marked with violet grey shell-markings and dark red surface-spots, and in size average about 2·65 by 2·33.

Aquila fulvescens Gray (*Aq. boecki* von Homeyer) is a pale variety of the present species (cf. Rothschild, Bull. B.O. Club. x. p. 51.) and not a distinct species.

732. Lesser Spotted Eagle.

AQUILA POMARINA.

Aquila pomarina Brehm, Vög. Deutschl. p. 27 (1831); Dresser, v. p. 491, pl. 338; *A. maculata*, Sharpe, Cat. B. Br. Mus. p. 246 (1874, nec. Gmel.); *A. rufonuchalis*; Brooks, Stray Feathers, iv. p. 269 (1875).

Kleiner Schreiadler, German; *Mindre Skrikörn*, Swed; *Podorlik Malaya*, Russ.

♂ *ad.* (Pomerania). Differs from *A. maculata* in being smaller, the plumage earth-brown, with the tips of the feathers somewhat paler, the crown and nape warm creamy brown, the tail darker brown, the outer feathers tipped with dark grey and with obsolete light bars; tarsal feathers dull brown and light brown intermixed. Culmen 1·8, wing 17·7, tail 9·5, tarsus 3·8 inch. The young bird is brown, with a chocolate tinge and much less spotted than *A. maculata*; crown and hind-neck dotted with small ochreous rufescent spots, the nape with a large ochreous rufous patch; back and lesser wing-coverts dotted with small spots; secondaries tipped

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with greyish, the inner ones with large terminal irregularly ovate greyish spots; tail blackish brown, washed with grey and tipped with ashy grey; under parts striped with rufescent ochreous; tarsi sparsely spotted with creamy white; under tail-coverts creamy ochreous.

Hab. Eastern Europe, of rare occurrence in Scandinavia and in west-central Europe; Asia Minor and Syria on passage, ranging south in East Africa to Nubia in winter.

In habits it much resembles the Buzzards and like them is somewhat heavy and sluggish. It feeds to a large extent on frogs, and hence is often found near water, also on reptiles of various kinds, small mammals, and like its larger ally does not hesitate to feed on carrion when obtainable. Its nest which resembles that of the Common Buzzard is placed on a tree, but it occasionally makes use of the deserted nest of some other bird of prey. The eggs, two in number, are white, usually marked with pale violet grey shell-spots or blotches, and generally boldly blotched with dark red surface-markings and in size average about 2·49 by 1·97.

733. Steppe Eagle.

AQUILA NIPALENSIS.

Aquila nipalensis Hodgs. As. Res. xviii. part 2, p. 13, pl. i. (1832); Dresser, v. p. 507, pl. 340; *A. bifasciata*, J. E. Gray, Ill. Ind. Zool. i. pl. 17 (1830-34 nec. Brehm); Blanf. F. Brit. Ind. Birds, iii. p. 336; *A. orientalis*, Cab. J. f. O. 1854, p. 369; *A. amurensis*, Swinh. P.Z.S. 1871, p. 338; Tacz. F. O. Sib. O. p. 201; *A. mogilnik*, Sharpe, Cat. B. Br. Mus. i. p. 240 (1874 nec. Gmel.).

Steppen Adler, German; *Podorlik*, Russ.; *Karagush*, Bashkir.

♂ *ad.* (S. Russia). Upper parts dull earth-brown, darker on the head, scapulars and inner secondaries paler on the nape; quills and larger scapulars blackish brown; tail blackish brown, narrowly tipped with light brown, and with obsoletely marbled ashy grey bars; under parts dull earth-brown, tinged with rufous on the lower abdomen; bill bluish horn; cere, gape, and feet pale yellow; iris brown. Culmen 2·4, wing 20·5, tail 10·7, tarsus 3·7 inch. Female similar but larger. The young bird is dark earth-brown, with a faint purplish tinge above and below, has two conspicuous rufous ochreous wing-bars, the upper tail-coverts bright ochreous fawn, and the tail is broadly tipped with dull rufescent ochreous. From the Spotted Eagles this species is readily distinguishable in having a vertical and not a round nostril.

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Hab. Eastern and South-eastern Europe; North-east Africa; Asia east to South Eastern Siberia; Mongolia and China; in winter visiting Northern India, Assam, and Burma.

In habits this is a heavy bird, frequenting the Steppes and open country and feeding on small mammals, reptiles, and carrion, sometimes capturing small birds. Its nest, which is invariably placed on the ground, frequently on a low mound, is constructed of twigs and boughs lined with grass, plant-stems, or wool, and the eggs 2, rarely 3 in number, are usually deposited in May, and are white with violet grey shell-markings and deep red surface-spots and blotches, and are as a rule not richly marked though sometimes they are as well and boldly marked as those of *A. pomarina*. In size they average 2·66 by 2·35.

734. Tawny Eagle.

AQUILA RAPAX.

Aquila rapax (Temm.), Pl. Col. i. livr. 76, pl. 445 (1828); Blanf. Geol. and Zool. Abyss. p. 295; Dresser, v. p. 513, pl. 341; Sharpe, Cat. B. Br. Mus. p. 242; *A. nævioides* (Cuv.), Règne Anim. i. p. 326 (1829); *A. albicans*, Rüpp. Neue Wirbelth., p. 34, pl. 13 (1835); von Erlanger J. f. O. 1898 Taf. vii.

Sagr el arneb, Arabic; *Chok*, *Coo Vogel*, in S. Africa.

♀ *ad.* (Africa). Head, neck, back, and rump creamy ochreous, sparingly marked with deep brown; scapulars and wing-coverts deep brown, with a purplish gloss and blotched with pale ochreous brown; quills blackish brown, secondaries with obsolete greyish bars on the inner web; tail deep brown, tinged with grey, the middle feathers obsoletely barred; under parts warm creamy ochreous, the throat, flanks, and abdomen broadly striped with warm brown; bill horn-blue; cere and feet yellow; iris brown. Culmen 2·5, wing 20·0, tail 10·0, tarsus 3·6 inch. The male is similar but smaller. The adult bird varies from the above to warm rufous brown above and below, the tail and wings blackish brown, and the young bird is pale brownish isabelline, but slightly striated, the quills and tail deep blackish brown, the latter tipped with fulvous.

Hab. Africa generally, south to the Cape Colony; Turkey and Palestine; of doubtful occurrence in south-western Europe.

In habits it differs but little from its allies and is a somewhat heavy bird, preferring carrion, frogs, fish, and even worms, to hunting after larger birds and mammals, but it will capture hares and rabbits, and often robs the sportsman

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of wounded game. Its call-note is (*fide* von Erlanger) *ichtiōh, ichtiōh.* Its nest is a large heavy structure of boughs, twigs, and dry grass, and is placed on a tree. The eggs, which are deposited in April or May, in Abyssinia in June or August, and on the Blue Nile in January, are white, more or less richly spotted and blotched with pale purplish red and deep rufous and measure about 2·81 by 2·22.

There are two forms of this eagle, one tawny, and the other (*Aq. albicans*) pale clay ochreous, but intermediate specimens occur.

735. Imperial Eagle.

AQUILA HELIACA.

Aquila heliaca, Savigny. Obs. Ois. de l'Égypte, p. 82, pl. xii. (1809); Gould, B. of E. i. pl. 5; Sharpe, Cat. B. Br. Mus. i. p. 238; Tacz. F. O. Sib. O. p. 17; Blanf. F. Brit. Ind. Birds, iii. p. 334; *A. imperialis* (Bechst.) Orn. Taschenb. p. 553 (1812); (Naum.) i. p. 201, Taf. 6, 7; *A. crassipes*, Hodgs. in Gray's Zool. Misc. p. 81 (1844); *A. mogilnik* (Gmel.) Nov. Com. Petrop. xv. p. 445 (1771)?; Dresser, v. p. 521, pls. 343, 344.

Aigle Impérial, French; *Kaiseradler*, German; *Aquila imperiale*, Ital.; *Mogilnik, Karagousch*, Russ.; *Akab, Urga*, Persian; *Iumiz*, Hindu.; *Frus*, Bengal.

♂ *ad.* (Bulgaria). Head and neck above dull yellowish isabelline, the forehead marked with dark brown, the nape tinged with rufous; rest of the plumage blackish brown, some of the scapulars pure white; tail dark grey, with a broad terminal blackish brown band, and finally tipped with light brown; under tail-coverts light brown; bill bluish, darker at the tip; cere and feet pale yellow; iris brownish yellow. Culmen 2·85, wing 23·5, tail 11·6, tarsus, 3·9 inch. Female similar but larger. The young bird is brownish yellow, striped with dark earth-brown; wings and tail dark brown, the latter tipped with light brown; secondaries tipped with yellowish white; chin and throat unstriped. Between this plumage and the adult all stages are to be met with.

Hab. South-eastern Europe; Asia Minor and Palestine; east Africa south to Nubia and Abyssinia; Asia east to south-eastern Siberia, Mongolia, and China; in India no further east than Bengal (Furreedpore).

In habits this Eagle is a heavy and sluggish bird, and resembles a Buzzard more than any nearer allied species.

It frequents the plains and steppes, where it feeds on small mammals and birds, frogs, lizards, and carrion. Its nest, which is placed in a tree is a heavy structure of boughs and sticks,

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lined with twigs, grass, wool, or other soft material, or with green leaves, and in April or May 2 eggs are deposited, which are dull white somewhat sparingly clouded with pale purplish red, and blotched with pale rufous, and average in size 2·95 by 2·28.

I still believe that Gmelin's *Falco mogilnik* is referable to this species, but as ornithologists hold such different views on this subject I have deemed it advisable to use Savigny's name *heliaca* about which there can be no doubt.

736. White-shouldered Eagle.

AQUILA ADALBERTI.

Aquila adalberti L. Brehm, Ber. Ver. Deutsch. Orn. Gesellsch. xiii. Beitr. vii. p. 55 (1860); Dresser, v. p. 517, pls. 342, 343; Sharpe, Cat. B. Br. Mus. p. 239; *A. leucolena*, Dresser, P.Z.S. 1872, p. 864.

Aguila real, Aguila imperial, Span.; *Aguia*, Portug.

♀ *ad.* (Spain). Differs from *A. heliaca* in having the forehead and crown umber-brown, the rest of the crown and nape light sandy brown, the whole edge of the wings with a broad band of white, the scapulars dark brown, and the sides of the face and of the neck light sandy brown, washed with rufous. Culmen 3·1, wing 24·4, tail 13·8, tarsus 4·15 inch. Male similar but smaller. The young bird differs from that of *A. heliaca* in being pale sandy isabelline, tinged with rufous and unstriped.

Hab. The Iberian peninsula, and north-west Africa.

In habits and nidification it does not differ from *A. heliaca* and its eggs are also similar to those of that species.

737. Golden Eagle.

AQUILA CHRYSAETUS.

Aquila chrysaetus (Linn.), Syst. Nat. i. p. 125 (1766); Naum. xiii. Taf. 339; Hewitson, i. p. 8, pl. iii. pl. iv. fig. 1; Gould, B. of E. i. pl. 6; id. B. of Gt. Brit. i. pl. 2; Newton, i. p. 11; id. Ootheca Wolleyana, pp. 8–43, pls. ii.–iv.; Dresser, v. p. 533, pl. 345; Sharpe, Cat. B. Br. Mus. p. 235; Tacz. F. O. Sib. O. p. 10; Blanf. F. Brit. Ind. Birds, iii. p. 333; Saunders, p. 327; Lilford, i. p. 3, pl. 3; Ridgway, Man. N. Am. B. p. 242; *A. fulva* (Linn.), Syst. Nat. i. p. 125 (1766); (Naum.) i. p. 208, Taf. 8, 9; *A. melanaetos* (Gmel.), Syst. Nat. i. p. 254 (1788); *A. canadensis* (Gmel.), tom. cit. p. 256; *A. barthelemyi*, Jaub. Rev. and Mag. Zool. 1852 p. 545.

Aigle royal, French; *Aguia real*, Portug.; *Aguila real*, Spain. *Aquila reale*, Ital.; *Steinadler, Goldadler*, German;

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Steen Arend, Dutch: *Kongeörn, Stenörn*, Dan. and Norweg.: *Kungsörn*, Swed.; *Maa-kotka, Kokko*, Finn.: *Koaskim*, Lapp.; *Bjerkut, Cholsan*, Russ.; *Agâob-kakala*, Arab.; *Ogab*, Moor.; *Muriari*, Hindu.; *Inu-washi*, Jap.

♂ *ad.* (N. Russia). Forehead and cheeks deep brown; crown, nape, and hind-neck rufous buff; upper parts deep brown, with a faint purplish gloss, many of the feathers with lighter tips; quills blackish brown; tail blackish brown, on the basal portion irregularly barred with dark grey; under parts blackish brown; the feathers on the tarsus rufous creamy buff; bill dark horn; cere and feet yellow; iris rich hazel brown. Culmen 2·8, wing 23·6, tail 13·5, tarsus 4·2 inch. The female is similar but larger. The young bird has the upper parts more uniformly dark; crown and nape dark brown, the feathers with greyish buff tips; lower back and rump varied with white; the basal two-thirds of the tail white, sparingly marbled with pale brown; tarsal feathers dull white, sparingly streaked and marbled with brown.

Hab. The mountainous portions of Europe generally, north into Lapland; British Islands; North Africa; Asia east to China, north to Dauria, south to the Himalayas; North America from the Arctic regions south to the Hudson river and New Mexico.

Frequents the mountains in preference to the plains, and is a more powerful bird than *A. heliaca*, and though it will feed on carrion when an opportunity occurs, yet its usual prey consists of hares, rabbits, lambs, fawns, and birds, also rats and other small mammals. On the wing it is graceful and powerful and soars in circles with ease in search of its prey. Its cry is a loud yelp uttered several times in succession. It nests on rocks or trees making a bulky nest of boughs and sticks lined with fern, moss, grass, wool, or any suitable soft material, and in March or April deposits 2, sometimes 3, and but rarely 4 white eggs, sometimes unmarked but usually more or less richly spotted and blotched with violet-grey shell-markings, and rich dark surface-spots and blotches, and in size average 2·89 by 2·41. All the eggs I have received from near Archangel are pure white.

HALIAETUS, Savigny, 1810.

738. Pallas's Sea-eagle.

HALIAETUS LEUCORYPHUS.

Haliaetus leucoryphus (Pall.) Reis. Russ. Reichs i. p. 454 (1771); Dresser, v. p. 545, pl. 346; Sharpe, Cat. B. Br. Mus. i. p. 308; Blanf. F. Brit. Ind. Birds, iii. p. 366; Tacz. F. O. Sib. O. p. 43; *H. macei* (Temm.), Pl. Col. i. pls. 8, 223 (1824).

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Bieloklovöi-orlan, Russ.; *Machurang*, Hindu.

♂ *ad.* (S. Russia). Forehead, sides of head and neck, chin, and throat pale yellowish white; crown, nape, and hind-neck warm rufous isabelline, or rufescent ochreous; rest of upper parts umber-brown; tail dark brown, with a broad white cross band; under parts dark reddish brown; bill dark plumbeous; cere light plumbeous; tarsus nearly bare, dull white; feet dull white; iris greyish yellow. Culmen 2·7, wing 22·0, tail 11·7, tarsus 3·85 inch. Female similar but larger. The young bird has the upper parts nearly uniform brown, the head and neck dark fulvous brown, streaked with sandy brown; tail dark brown, with an ashy tinge; under parts lighter fulvous brown, some of the breast-feathers with pale margins.

Hab. European Russia, not ranging far north; Turkey, Asia Minor, and Central Asia, east to southern Siberia, Mongolia, and northern China; northern India and Burma.

Is essentially a frequenter of rivers, marshes, tidal creeks, and lakes, and feeds on fish, which it captures near the surface of the water, water-fowl, and snakes, frogs, etc, but its chief food consists of fish. Its cry is a shrill half croak, half scream, somewhat harsh in tone. It places its nest on a lofty tree, constructing it of sticks and boughs, lining it with twigs and green leaves, rushes and straw, and from December to January (in India) 2 or 3, seldom 4 eggs are deposited, which are white and in size measure about 2·81 by 2·16.

739. Sea-Eagle.

HALIAETUS ALBICILLA.

Haliaetus albicilla (Linn.), Syst. Nat. i. p. 123 (1766); (Naum.), i. p. 224, Taf. 12, 13, 14; Hewitson, i. p. 15, pl. iv. fig. 2; Gould, B. of E. i. pl. 10; id. B. of Gt. Brit. i. pl. 4; Newton, i. p. 25 id. Ootheca Wolleyana, pp. 45-58; Dresser, v. p. 551, pls. 347, 348; Sharpe, Cat. B. Br. Mus. i. p. 302; Tacz. F. O. Sib. O. p. 29; Blanf. F. Brit. Ind. Birds, iii. p. 369; Ridgway, p. 243; Saunders, p. 327; Lilford, i. p. 8, pl. 6.

Pygargue à queue blanche, French; *Aguila pigargo*, Span.; *Aquila di Mare*, Ital.; *Seeadler*, German; *Zee-arend*, Dutch; *Örn*, Icel.; *Havörn*, Dan. and Norweg.; *Hafsörn*, Swed.; *Meri-kotka*, Finn.; *Biclochvost*, Russ.; *Ō-jiro-washi*, Jap.

♂ *ad.* (S. Russia). Head, upper neck, and throat creamy white, the base and shafts of the feathers dark brown; rest of the body and wings dark brown, marked here and there with brownish white; the quills blackish; tail nearly wedge-shape, dark brown at the extreme bases, otherwise white; bill and cere pale yellow, the former bluish at the tip; legs

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chiefly unfeathered, light yellow ; iris straw yellow. Culmen 3·6, wing 26·5, tail 12·5, tarsus 4·2 inch. Female larger, and darker on the head and neck. The young bird has the entire plumage blackish brown, varied with fulvous, the tail dark brown ; bill blackish ; cere yellowish brown ; legs and feet dull yellowish ; iris brown.

Hab. Europe generally, north to south Greenland and Novaya Zemlya: North Africa; Asia Minor and Asia east to Japan, north to Kamchatka, south to N.W. India, Sind, and the Punjab; China, Manchuria, and Corea.

As its name implies it is chiefly an inhabitant of the sea coast, large lakes, and rivers, but in some parts is often found far inland. Though large and powerful it seldom attacks any animal larger than a grouse, hare, or a lamb, but feeds principally on fish, carrion, rabbits, and wild fowl. Its cry is a clear shrill yelp, shriller than that of the Golden Eagle. The nest is a huge structure of sticks lined with moss and grass, and is placed on a cliff, a tree, or, when in a marsh, on the ground, and the eggs are laid in April or May in Europe, or earlier in the south-eastern portions, and in December and January in Egypt. These are two in number and uniform unspotted white, rather rough in texture of shell and measure about 2·82 by 2·30.

740. Bald Eagle.

HALIAETUS LEUCOCEPHALUS.

Haliaetus leucocephalus (Linn.), Syst. Nat. i. p. 124 (1766) ; Wils. Am. Orn. iv. p. 89, pl. 36 ; Naum. xiii. Taf. 334, 335 ; Gould, B. of E. i. pl. 11 ; Aud. B. N. Am. i. p. 59, pl. 14 ; Ridgway, p. 243 ; Tacz. F. O. Sib. O. p. 34 ; Bendire Life Hist. N. Am. B. i. p. 274, pl. ix. fig. 7 (egg) ; *H. washingtonii* (Aud.) Mag. Nat. Hist. i. p. 115 (1829).

♂ *ad.* (New Brunswick). Differs from *H. albicilla* in having the head, neck, tail-coverts, and tail pure white, the rest of the plumage blackish brown, many of the feathers with paler margins ; bill, cere, legs, feet, and iris yellow. Culmen 2·20, wing 25·0, tail 13·2, tarsus 3·35 inch. Female similar but larger. The young bird is nearly uniform blackish brown, the feathers on the under parts with white bases, which show through here and there.

Hab. N. America, south to Florida and Mexico; the Commander Islands and Kamchatka.

In habits it resembles *H. albicilla* and like that bird feeds on small mammals, carrion, fish, and birds, and often robs the

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Osprey of its finny prey. Its nest also resembles that of *H. albicilla* and is usually placed on a tree but sometimes also on a cliff or on the ground. Its eggs are also pure white, 2 in number, and are deposited from December to April according to latitude. They measure about 2·89 by 2·26, but eggs from southern latitudes are smaller than those from the high north.

741. Kamchatkan Sea-Eagle.

HALIAETUS PELAGICUS.

Haliaetus pelagicus (Pall.), Zoogr. R. As. i. p. 343 and pl. (1811); Temm. and Schlegel, Faun. Jap. Aves, p. 11, pl. 4; Cassin. B. Calif. pp. 31, 110, pl. 6; David and Oust. Ois. Chine, p. 13; Tacz. F. O. Sib. O. p. 37; Sharpe, Cat. B. Br. Mus. p. 306; (Ridgway), p. 243.

Ō-washi, Jap.

♂ *ad.* General colour dark brown, with a slight greyish tinge, the forehead, lesser and median wing-coverts, rump, tail, tail-coverts, and thighs white; nape and hind-neck greyish brown, with paler edges; bill, cere, and feet rich yellow; tarsus chiefly bare; iris pale yellow. Culmen 2·49, wing 24·0, tail 14·0, tarsus 4·5 inch. Female similar but larger. The young bird is dull brown, on the head and under parts with paler streaks, the lower back, rump, and tail-coverts marked with white, and the tail white, mottled with brown; thighs and vent feathers slightly mottled with white.

Hab. Kamchatka, eastern and south-eastern Siberia; rare in the Commander Islands; Mongolia; North China; Japan; of accidental occurrence in the Aleutian Islands?

In habits it is said to resemble *H. albicilla* and like that bird it feeds on fish and carrion. It places its nest, which is a heavy structure of boughs and sticks, lined with grass, on a tree, but also occasionally on a rock and in March, April, or May deposits 2 eggs, which resemble those of *H. albicilla* but are as a rule slightly larger.

742. Corean Sea-Eagle.

HALIAETUS BRANICKII.

Haliaetus branickii, Tacz. P.Z.S. 1888, p. 451; id. F. O. Sib. O. p. 42.

♂ *ad.* Differs from *H. pelagicus* in having only the tail and upper and under tail-coverts pure white, the rest of the plumage blackish brown, the feathers on the crown and neck with a fine central greyish line; beak, cere, bare portion of tarsus and feet rich orange-yellow; iris white with a yellowish tinge. Culmen 3·15, wing 21·62, tail 13·39, tarsus 3·42 inch.

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Hab. Corea.

As yet but very little is known about this bird, and it has only been obtained in Corea. Nothing is on record respecting its habits or nidification. Dr. Puschkin described (Bull. B. O. Club, xi. p. 4, 1900) under the name *Thalassaëtus macrurus*, from Yakutsk, a Sea-Eagle closely allied to *H. branickii*, of which I have not seen a specimen and cannot therefore judge as to whether it is a good species.

CIRCAETUS, Vieill., 1816.

743. Short-toed Eagle.

CIRCAETUS GALLICUS.

Circaetus gallicus (Gmel.), Syst. Nat. i. p. 295 (1788); Gould, B. of E. i. pl. 13; Dresser, v. p. 563, pls. 349, 350; Sharpe, Cat. B. Br. Mus. i. p. 280; Blanf. F. Brit. Ind. Birds, iii. p. 355; *C. brachydactylus* (Wolf), Taschenb. deutsch. Vogelk. i. p. 21 (1810); Naum. i. p. 236, Taf. 15.

Aigle Jean le blanc, French; *Guincho da tainha*, Portug.; *Aguila parda*, *Aguila del huevo solo*, Span.; *Biancone*, Ital.; *Natternadler*, *Schlangenadler*, German; *Agarb abiad*, Arab.; *Sampmar*, Hindu.; *Sapmaril*, Beng.

♂ *ad.* (Italy). Upper parts dark earth-brown with a faint purplish gloss, some of the feathers with darker centres; quills dark brown on outer web and tips, white on inner web, barred on the secondaries; tail brown, with darker bars and tipped with white; lores, forehead, chin, and sides of head covered with long black bristles; under parts white, the throat and breast striped, the flanks sparingly barred with brown; under tail-coverts white; tarsi bare, covered with almost hexagonal scales, those on the feet smaller and rounder; beak blackish horn; cere yellowish flesh-colour; legs dirty flesh-colour; iris yellow. Culmen 2·05, wing 20·4, tail 11·4, tarsus 4·1 inch. Female similar but larger. The young bird has the wing-coverts with paler margins, the throat more marked with brown, the lower throat and breast almost uniform dark earth-brown, and the breast broadly barred with brown.

Hab. Southern Europe, rare in central Europe and only a straggler further north; Africa south to Kordofan and Senaar; Palestine and central Asia east to North China, and occurring throughout India.

In habits it has much in common with the Buzzards, and on the wing it is very Buzzard-like, but is readily distinguishable by

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its white under parts. It feeds on snakes, lizards, crabs, frogs, large insects, small mammals and weakly birds, and to some extent on fish. Its note is a plaintive, rather wild cry. It is a tree-breeder, but its nest has been found on the ground. The nest is constructed of sticks and twigs lined with coarse grass, and it lays, in April or May, a single egg which is roundish in shape, white with a faint greenish tinge, the shell rather rough and granulated, and measures about 2·65 by 2·19.

SPIZAETUS, Vieill., 1816.

744. Nepalese Hawk Eagle.

SPIZAETUS NEPALENSIS.

Spizaetus nepalensis (Hodgson), J.A.S.B. v. p. 229, pl. 7 (1836); Sharpe, Cat. B. Br. Mus. i. p. 267; Blanf. F. Brit. Ind. Birds, iii. p. 352; *S. orientalis*, Temm. and Schlegel, Faun. Jap. Aves, pl. 3 (1850).

Kanda-panthiong, Lepcha.; *Kuma-taka*, Jap.

♂ *ad.* (India). Crown and sides of head blackish; crest 3 to 4 inches long narrowly tipped with white; upper parts dark brown; quills with somewhat indistinct bars; rump and upper tail-coverts barred brown and white; tail greyish brown with blackish bands; throat white with a central blackish stripe; breast buffy white broadly striped with blackish brown; rest of under parts brown barred with white; bill black; cere hoary black; feet dull yellowish white; iris yellow; legs feathered to the base of the middle toe. Culmen 1·9, wing 17·0, tail 12·5, tarsus 4·2 inch. Female similar but rather larger. The young bird has the crown and sides of head warm isabelline, spotted and striped with blackish brown; rest of the upper parts earthy brown, some of the feathers with pale margins; tail earth-brown, whitish at the extreme base and with broad dark bars; entire under parts warm rufous buff with a few blackish brown short stripes on the breast.

Hab. The Himalayas from Kashmir to Bhután, visiting the plains of Northern India in the cold season; China; Mongolia; Japan.

This is a forest-haunting species, and preys on small mammals, pheasants, and other game birds. It breeds in the Himalayas, and in Japan, placing its nest, which is a bulky structure of sticks, on a tree, and from January to May the eggs, 2 in number, are deposited. These are greenish white, sparingly marked with pale purple and reddish brown and measure about 2·7 by 2·2.

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ASTUR, Lacépède, 1801.

745. GOSHAWK.

ASTUR PALUMBARIUS.

Astur palumbarius (Linn.), Syst. Nat. i. p. 130 (1766); (Naum.) i. p. 249, Taf. 17, 18; Hewitson, i. p. 34, pl. xi; Gould, B. of E. i. pl. 17; id. B. of Gt. Brit. i. pl. 10; Newton, i. p. 83; id. Ootheca Wolleyana, i. p. 73; Dresser, v. p. 587, pl. 354; Sharpe, Cat. B. Br. Mus. i. p. 95; Blanf. F. Brit. Ind. Birds, iii. p. 397; Tacz. F. O. Sib. O. p. 98; Saunders, p. 331; Lilford, i. p. 59, pls. 28, 29.

Autour, French; *Açor*, Portug.; *Azor*, Span.; *Astore*, Ital.; *Hühnerhabicht*, German; *Havik*, Dutch; *Duehög*, Dan. and Norweg.; *Dufhök*, Swed.; *Koppelohaukka*, *Kyyhkyhaukka*, Finn.; *Yastrebutnyatnik*, Russ.; *L'Abli*, Arab.; *el-Boz*, Moor.; *Tartan*, Pers.; *Jarra* ♂, *Baz* ♀, Hindu.; *Ō-taka*, Jap.

♂ *ad.* (N. Russia). Upper parts dark ashy slate, blacker on the head, the nape marked with white; quills dark brown tinged with ashy, obsoletely barred on the outer web, mottled with greyish white on the inner web; tail ashy brown tipped with white, and with four dark brown bands; a line above and a long patch behind the eye white; under parts white, the throat indistinctly barred with grey and finely streaked with blackish; rest of under parts except the under tail-coverts barred with slate-grey; bill bluish horn; cere greenish yellow; leg yellow; iris orange-yellow. Culmen 1·4, wing 13·0, tail 10·0, tarsus 3·1 inch. Female similar but larger, somewhat browner above, and more broadly barred below. The young bird is warm brown above, the head and nape with broad light reddish brown, the back and wings with narrow yellowish white margins; quills and tail distinctly barred; under parts buffy white striped with dark brown.

Hab. Europe generally, north as far as the forest extends; of rare occurrence now in Great Britain; North Africa in winter; Asia generally, east to Japan, north to Kamchatka, south to the Himalayas, and northern China.

Is a bird of the forest and woodlands, and of the lowlands not occurring in the mountains. On the wing it is swift and active, and threads through the forest trees with ease, being able to overtake and capture pigeons as well as game birds. To poultry and game it is a veritable scourge. Its nest is placed on a tree, generally at a considerable altitude, and is constructed of sticks and twigs, lined with finer twigs, and sometimes garnished with fresh foliage. The eggs 3 to 4 in number are white with a faint blue-green tinge, occasionally

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faintly marked with colour, are laid in April or May, and measure about 2·43 by 1·80. Specimens from Asia, and especially from Kamchatka (*A. candidissimus*, Dyb.), are very pale and may almost be considered as a subspecies. In North America the Goshawk is replaced by *Astur atricapillus* (Wils.) which differs in having the under parts closely freckled, not barred or narrowly vermiculated with ashy brown. This species is said to have been once obtained in Scotland, and once in Ireland.

746. SHIKRA.

ASTUR BADIUS.

Astur badius (Gmel.), Syst. Nat. i. p. 280 (1788); Sharpe, Cat. B. Br. Mus. i. p. 109; (Dresser), ix. p. 273, pl. 693; Blanf. F. Brit. Ind. Birds, iii. p. 398; *A. dussumieri*, Temm. Pl. Col. i. pls. 308, 336 (1824); *A. cenchroides*, Severtz. Turk. Jevot. p. 113 (1873).

Kyrgui, Tekke; *Shikra* ♀ *Chipka* ♂, Hindu.; *Kurula-goya*, Cing.; *Thanc*, Burm.

♂ *ad.* (India). Upper parts ashy grey; quills blackish towards the tip; outer tail-feathers with blackish bars; sides of head tinged with rufous; chin whitish; under parts rusty red narrowly barred with white; bill dusky black; cere, legs, and iris yellow. Gape 0·7, wing 7·5, tail 6·3, tarsus 2·0 inch. Female similar but larger. The young bird is brown above, the feathers at first with rufous edges; conspicuous white bars on the head and nape; all the tail-feathers barred; under parts white with large elongate brown spots; usually a median brown stripe on the throat.

Hab. Transcaspia; Persia; Turkestan; the whole of India and Ceylon; Burma; Siam; Cambodia, and southern China.

Extremely active and courageous in its habits this Hawk will attack birds larger than itself. It inhabits the plains, as well as the hills up to an altitude of about 5000 feet, and is not to be found in the thick forests or in the desert. Its flight is steady and direct, but it sometimes soars and circles at a considerable altitude. Its note is a shrill two-note whistle or scream. It feeds on mice, insects, small reptiles, and birds, and will also take toll from the poultry yards. Its nest is a somewhat loose structure of small sticks, lined with fine roots, and is placed at a considerable altitude in a tree, and its eggs, usually 4, but occasionally 5 in number, are bluish white, very seldom faintly marked with colour, and in size average about 1·55 by 1·22.

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747. Levant Sparrow-Hawk.

ASTUR BREVIPES.

Astur brevipes, Severtz. Bull. Soc. Imp. Nat. Mosc. xxxiii. p. 234, tab. i. ii. iii. (1850); (Dresser), v. p. 633, pls. 359, 360; Sharpe, Cat. B. Br. Mus. i. p. 111; (Seidensacher), Ver. Zool. Bot. Gesell. 1864, taf. i. (egg); *A. gurneyi* (Bree.), B. of Eur. iv. p. 185 (1863).

Basha, Pers.

♂ *ad.* (Macedonia). Differs from *A. badius* in being larger, in having the under parts much more broadly and boldly barred, and as a rule with darker brown and not rufous bars. Culmen 0·85, wing 8·9, tail 7·0, tarsus 2·15 inch. The female is not much larger than the male, whereas in *A. badius* the difference in size between the sexes is considerable.

Hab. South-eastern Europe; Greece; Southern Russia; Palestine; Asia Minor; Transcaspia; Persia.

This, the western representative of *A. badius*, differs but little from that bird in its habits and nidification. It frequents groves, gardens, and woods, and feeds on small mammals, birds, and large insects. Its nest resembles that of the Sparrow Hawk and is placed in a tree often tolerably high above the ground, and in May it lays 4, sometimes only 3, eggs which are greenish white when fresh, but soon fade. In size they average 1·57 by 1·25.

ACCIPITER, Briss., 1760.

748. Sparrow-Hawk.

ACCIPITER NISUS.

Accipiter nisus (Linn.), Syst. Nat. i. p. 130 (1766); (Naum.), i. p. 258, taf. 19, 20; Hewitson, i. p. 35, pl. xii; Gould, B. of Gt. Brit. i. pl. 11; Newton, i. p. 88; Dresser, v. p. 599, pls. 355, 356, 357, 358; Sharpe, Cat. B. Br. Mus. i. p. 132; Blanf. F. Brit. Ind. Birds, iii. p. 402; Saunders, p. 333; Lilford, i. p. 66, pls. 30, 31, 32, 33; *A. fringillarius* (Savigny), Desc. de l'Égypt. Ois. p. 270 (1808); Gould, B. of E. i. pl. 18; *A. pallens*, Stejn. Proc. U. S. Mus. xvi. p. 625 (1893); *A. granti*, Sharpe, Ann. and Mag. Nat. Hist. v. p. 483 (1890).

L. Épervier, French; *Gavião*, Portug.; *Gavilan*, Span.; *Sparviere*, Ital.; *Sperber*, German; *Sperwer*, Dutch; *Spurvehæg*, Dan. and Norweg.; *Sparfhök*, Swed.; *Varpuishaukka*, *Nuoli-*

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haukka, Finn.; *Jastreb-perepelatnik*, Russ.; *Tholéa*, Arab.; *Basha*, Pers.; *Basha* ♀, *Bashin* ♂, Hindu.; *Haitaka*, *Konori*, Jap.

♂ *ad.* (England). Upper parts dark slate-grey, the nape marked with white and a narrow superciliary stripe white; quills and tail greyish brown with dark transverse bands; under parts rufous white, sometimes rich rufous, barred with rufous brown; bill dark horn-blue; cere, legs, and feet yellow; iris orange. Culmen 0·65, wing 7·9, tail 6·5, tarsus 2·15 inch. The female is considerably larger than the male, viz. culmen 0·8, wing 9·2, tail 7·2, tarsus 2·4 inch, and the old bird has the under parts white, but little tinged with rufous except on the flanks, and barred with brown. The young bird is dark brown above with rusty margins to the feathers, the quills and tail with dark bars; below dull white streaked and to some extent irregularly barred with dark brown. This species is however subject to considerable variation in colour and markings.

Hab. Europe generally, north to the Arctic Circle; North Africa in winter, south to Kordofan and Sennaar; Asia Minor, Palestine, and Asia generally, north to Kamchatka, east to Japan, and south to India, Corea, and China.

Extremely bold, swift, active on the wing and fierce, the Sparrow Hawk is not only a terror to small birds, but a sore pest to the game preserver and poultry breeder. It frequents not only woodlands and plains, but may also be met with in the mountains. It feeds chiefly on birds, and will attack a bird as large as itself, but its chief food consists of small and young birds, Wood Pigeons, young Rabbits, Leverets, etc. Its alarm note is a tolerably shrill *kirk*, *kirk*, *kirk*, and in the breeding season it utters a soft *gu*, *gu*, *gu*. It usually builds its own nest, a somewhat flat structure of sticks lined with finer twigs, placed on a tree often at a considerable altitude; it will, however, occasionally make use of a deserted crow's nest. The eggs, 4 to 5, sometimes 6 or 7, in number, are deposited in May, and are white tinged with pale green or blue, more or less blotched and marked with chestnut-red, reddish brown, or dark brown, and in size average 1·55 by 1·27.

749. Besra Sparrow-Hawk.

ACCIPITER VIRGATUS.

Accipiter virgatus (Temm.), Pl. Col. i. pl. 109 (1823); Sharpe, Cat. B. Br. Mus. i. p. 150; Blanf. F. Brit. Ind. Birds, iii. p. 404; Tacz. F. O. Sib. O. p. 110; *A. gularis* (Temm. and Schlegel), Faun. Jap. Aves, p. 5, pl. 2 (1850); *A. stevensoni*, Gurney, Ibis, 1863, p. 447, pl. xi.

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Besra ♀, *Dhoti* ♂, Hindu.; *Ukissa*, Cing.; *Tsume*, Jap.

♂ *ad.* (Japan). Upper parts dark slaty brown, the sides of the head pale greyish brown washed with rufous; tail and quills dark banded; nape-feathers and scapulars white at the base; throat white; under parts pale rusty red slightly barred with white, vent and under tail-coverts white; bill lead-grey, blackish at the tip; cere pale lemon-yellow; legs and feet yellow; iris bright yellow or orange. Culmen 0·72, wing 6·3, tail 5·3, tarsus 2·1 inch. Female larger (wing 7·8, tail 6·4); upper parts dark brown tinged with grey, the head blackish brown; tail pale ashy brown with broad blackish bands; under parts white broadly barred with rufous brown; throat white with a broad dark median stripe.

Hab. The Himalayas and the forests of India and Ceylon, north to the southern Baikal district and Dauria, east to China and Japan, south to the Indo-Malayan islands.

Inhabits the forests, and is a bold courageous bird, being therefore held in high esteem by Indian falconers. It feeds on small birds, and also to some extent on lizards and insects. Its nest is placed in a tree and is constructed of sticks without any lining, and the eggs, 4 in number, are laid in May, and are white spotted and blotched with dark umber-brown and measure about 1·54 by 1·19.

MELIERAX, Gray, 1840.

750. Many-Banded Hawk.

MELIERAX POLYZONUS.

Melierax polyzonus (Rüpp.), Neue Wirbelth. p. 36, taf. 15 (1835); Drake, Ibis, 1869, p. 153; Sharpe, Cat. B. Br. Mus. i. p. 88.

Saqr Schikl, Arab.; *Hatkaadak*, Somali.

♂ *ad.* (N. Africa). Upper parts slate-grey, the sides of the head darker; larger wing-coverts and outer secondaries freckled with white; primaries blackish, washed with ashy grey; upper tail-coverts white barred with slate-grey; tail blackish, but white at the extreme base and tip, the outermost feathers banded with white; throat and breast ash-grey, the rest of the under parts white narrowly barred with ash-grey; bill horn-black, the base, cere, and legs vermilion; iris pale umber-brown. Culmen 1·4, wing 12·5, tail 9·0, tarsus 3·5 inch. Female similar but rather larger. The young bird is dull brown above, the feathers with fulvous or rusty margins; the throat whitish finely streaked with brown; rest of the under parts, upper and under tail-coverts white barred with rusty brown, the tail greyish brown banded with dark smoky brown; bill blackish horn, at the base bluish; cere olive-green; legs yellowish red, iris dull brown.

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Hab. Northern and north central Africa, north to Arabia and Morocco; an accidental straggler south to Damaraland.

Frequents woods, groves in the plains, gardens, and is not unfrequently seen near villages. Throughout its range it is a resident, is generally seen in pairs, and is by no means a shy bird. It feeds chiefly on grasshoppers, lizards, frogs, and small snakes, less frequently on mice or birds. Its call-note is a peculiar melodious whistle, which is generally to be heard in the pairing season.

Its nest is built of dry sticks and is placed high up in a tree, and its eggs, which are laid from August to October, are said to be bluish white.

Melierax gabar is said to have occurred in southern Europe, but I can find no authentic instance of its appearance there.

MILVUS, Cuv., 1800.

751. The Kite.

MILVUS ICTINUS.

Milvus ictinus, Savigny, Syst. Ois. d'Égypte, p. 28 (1810); Newton, i. p. 92; Dresser, v. p. 643, pl. 361; Sharpe, Cat. B. Br. Mus. i. p. 319; Saunders, p. 335; *Falco milvus*, Linn. Syst. Nat. i. p. 126 (1766); Naum. i. p. 333, taf. 31; *M. regalis*, Vieill. Faun. Franç. Oiseaux, p. 14, pl. 7, fig. 1 (1821); Gould, B. of Gt. Brit. i. pl. 22; Lilford, p. 25, pl. 13; *M. vulgaris*, Flem. Brit. Anim. p. 51 (1828); Hewitson, i. p. 36, pl. xiii.; Gould, B. of E. i. pl. 28.

Milan Royal, French; *Milhafre*, *Milano*, Portug.; *Milano real*, Span.; *Nibbio*, Ital.; *Roter Milan*, German; *Wouw*, Dutch; *Glente*, Dan. and Norweg.; *Glada*, Swed.; *Kokkolintu*, Finn.; *Korschun canya*, Russ.; *Siwâna*, Moor.; *Hadayia hamara*, Arab.

♂ *ad.* (N. Germany). Head and neck greyish white with ashy brown shaft-streaks; upper parts dark brown broadly margined with rufous; larger quills blackish, some of the inner secondaries with white margins on the inner web; upper tail-coverts rufous; tail deeply forked, reddish brown, with dark bars on the inner webs; under parts reddish brown striped with dark brown, the under tail-coverts reddish white; beak blackish horn, bluish at the base; cere and legs yellow; iris yellowish white. Culmen 1·9, wing 19·0, tail 14·4, tarsus 2·3 inch. Female similar but rather paler and larger. The young bird has the crown blackish brown marked with white, the upper parts more rufous, the tail browner and with obsolete dark bars, the under parts pale rusty red with yellowish blotches, and the lower abdomen and under tail-coverts yellowish white.

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Hab. Europe generally, rarer in the east, north to southern Norway and Sweden; rare in Finland and in Great Britain; Canaries, Madeira, and north-west Africa; southern Russia and Palestine.

Heavy and somewhat sluggish in its habits, it is strong though not swift on the wing, and is often seen circling high up in the air. During the breeding season it frequents woods and groves, but at other times affects the open country. It feeds on young birds, small mammals, young hares and rabbits, lizards, snakes, frogs and large insects. As a rule it is a silent bird, but its cry is a clear *heah, he, he, heah.* Its nest is placed high up in a tree and is large, rather flat, constructed of sticks and lined with wool, straw, moss, rags, or any soft material. The eggs, 3, seldom 4, in number, are deposited in April or May, and are white, with a few violet grey shell-markings and reddish-brown surface spots and blotches, and measure about 2·42 by 1·77.

752. Black Kite.

MILVUS MIGRANS.

Milvus migrans (Bodd), Tabl. Pl. Enl. p. 28 (1783); Gould, B. of Gt. Brit. i. pl. 23; Newton, i. p. 97; Dresser, v. p. 651, pl. 362; Saunders, p. 337; Lilford, i. p. 27, pl. 14; Blanf. F. Brit. Ind. Birds, iii. p. 378; *M. ater* (Gmel.), Syst. Nat. i. p. 262 (1788); Naum. i. p. 340, taf. 31, fig. 2; *M. niger*, Bp. Comp. List, p. 4 (1838); *M. korschun*, Sharpe, Cat. B. Br. Mus. i. p. 322 (nec. Gmel.)

Milan noir, French; *Milano negro*, Span.; *Nibbio nero*, Ital.; *Schwarzer Milan*, German; *Sort Glente*, Dan.; *Brun Glada*, Swed.; *Korschun*, Russ.; *Hadáya*, Arab.

♂ *ad.* (Spain). Crown, throat, sides of head, and nape white, the forehead narrowly, and the other parts more broadly striped with blackish brown; upper parts dark hair-brown, the hind-neck with dark stripes, and pale margins to some of the wing-coverts; outer quills blackish, the inner ones like the back; tail dark greyish hair-brown, obsoletely barred and slightly forked; breast clove-brown with blackish stripes; rest of under parts deep ferruginous, each feather with a dark shaft line; bill blackish horn, yellowish at the base of the lower mandible; cere and legs pale yellow; iris yellowish grey, surrounded by a black line. Culmen 1·6, wing 17·0, tail 11·2, tarsus 2·25 inch. Female rather larger, darker and in general more rufous in tinge. The young bird is dull brown above and below, only rufous on the abdomen, and everywhere the feathers have

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dull yellowish white or honey-yellow tips giving the bird a spotted appearance, these tips being also larger on the crown and nape; iris dark.

Hab. Central and southern Europe, of rare occurrence in northern Europe; has once been obtained in England; Africa south to the Cape; Cape Verde Islands; Madagascar; Asia as far east as Afghanistan.

As a rule it is a shyer bird than the Kite, and more buoyant and graceful on the wing. It frequents woodlands, especially near water, and preys on frogs, fish, small mammals, and will also feed on offal and carrion. Its cry is a shrill whistling call, easily distinguishable to a practised ear from that of *M. ictinus*. Its nest resembles that of the Buzzard, and is placed in a tree, and the eggs, from 2 to 4 in number, are deposited in April or May, and resemble those of the Kite and Buzzard, but are as a rule smaller, averaging in size about 2·0 by 1·64.

753. Black-eared Kite.

MILVUS MELANOTIS.

Milvus melanotis, Temm. and Schlegel, Faun. Jap. Aves, p. 14, pls. v. vb. (1850); Dresser, ix. p. 277; Sharpe, Cat. B. Br. Mus. i. p. 324; Tacz. F. O. Sib. O. p. 46; Blanf. F. Brit. Ind. Birds, iii. p. 377; *M. major*, Hume, Rough Notes, ii. p. 326 (1870).

Korschun-tschernouchey, Russ.; *Achak-Koyruk-sa*, *Mizan-sa*, Turki; *Tombi*, Jap.

♂ *ad.* (Siberia). Differs from *M. migrans* in having the feathers on the head margined with rufous brown and not white; ear-coverts blackish; under parts paler and less rufous in colour, and the inner webs of the quills white at the base, forming a conspicuous white patch on the under wing-surface; bill bluish; cere yellowish white; iris hazel-brown; legs dull china-white. Culmen 1·7, wing 19·3, tail 13·0, tarsus 2·3 inch.

Hab. From the Perm Government in Russia across Asia to Japan; in Siberia north to 64° N. Lat., south to Mongolia, Manchuria, Corea, China, the Himalayas, Burma, and in India south to Bombay in the cold season.

Frequents jungles, groves, and marshes, and in general habits resembles *M. migrans*, and like that species feeds on frogs, fish, small mammals, etc. It breeds from January to May, its nest and eggs being similar to those of *M. migrans*, the latter measuring about 2·31 by 1·8.

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754. Yellow-billed Kite.

MILVUS ÆGYPTIUS.

Milvus ægyptius (Gmel.), Syst. Nat. i. p. 261 (1788); Sharpe, Cat. B. Br. Mus. i. p. 320; Dresser, v. p. 657; *M. förskâhli* (Gmel.), tom. cit. p. 263; *M. parasiticus* (Daud.), Traité d'Orn. ii. p. 150 (1800).

♂ *ad.* (Egypt). Resembles *M. migrans*, but the crown is less grey and more rufous in tinge, the tail is more deeply forked, and the whole bill as well as the cere wax-yellow. Culmen 1·5, wing 16·8, tail 11·5, tarsus 2·25 inch.

Hab. Africa from the Mediterranean south to the Cape Colony where, however, it is rare; Palestine; of rare occurrence north of the Mediterranean in Greece and the Cyclades; Asia Minor.

In habits it resembles *M. migrans*, but is bolder and more fearless, and frequents the vicinity of towns, villages, camps, &c. where it feeds on carrion and offal and also on chickens, rats, large insects, and reptiles. It nests on trees, ruins, cliffs, &c., making a somewhat loosely constructed nest of sticks lined with rags, or any available soft material. The eggs, 2 to 3 in number, resemble those of *M. migrans*, but are a trifle smaller and more sparingly marked.

ELANUS, Savigny, 1810.

755. Black-winged Kite.

ELANUS CÆRULEUS.

Elanus cæruleus (Desf.), Mém. Acad. R. des Sciences, 1787, p. 503, pl. 15; Shelley, B. of Egypt, p. 198; Sharpe, Cat. B. Br. Mus. i. p. 336; Dresser, v. p. 663, pl. 363; Blanf. F. Brit. Ind. Birds, iii. p. 379; *E. melanopterus* (Daud.), Traité d'Orn. ii. p. 152 (1800); (Naum.), xiii. Taf. 347; Gould, B. of E. i. pl. 31.

Aisha-hemika, Moor.; *Saqer el Baz*, *Kuhieh*, Arab.; *Kapassi*, Hind.; *Ukussa*, Cing.

♂ *ad.* (Egypt). Forehead, lores, a line over the eye, and sides of the head white; feathers round the eye and eyelashes black; upper parts light ashy grey, the tail paler, the outer tail-feathers white; quills white at extreme base, darker towards the tip; lesser and median wing-coverts and a patch on the outer edge of the wing black; under parts white; bill bluish horn; cere and legs yellow; iris carmine; tarsus feathered in front about half its length. Culmen 1·0, wing 11·6, tail 5·5, tarsus 1·45 inch. Female similar. The young bird has the upper parts brown marked with

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rufous and tipped with white, the tail dull ashy grey tipped with white; under parts white, the breast washed with rufous, and slightly streaked with fulvous; iris dull yellowish.

Hab. The whole of Africa; of rare occurrence in Southern Europe (Greece, Spain, Portugal, and France); has occurred in Germany, Belgium, and has been said to have once been obtained in Ireland; Palestine; South-western Asia, India, Ceylon, and Burma.

In habits it is said to somewhat resemble the Harriers; it inhabits well wooded cultivated districts, the borders of the forest, groves, &c., and is to some extent crepuscular. It feeds chiefly on insects, but also on small mammals. Its flight is peculiar and varied, and reminds one somewhat of a Gull. In North Africa it breeds in March or April and in India at almost all seasons, and probably breeds twice in the year. The nest is a loose structure of twigs, unlined, or sometimes lined with grass, and is placed at some height in a tree. The eggs, 3 to 4 in number, are white or yellowish white, richly blotched with dark fox-red, and measure about 1·55 by 1·22.

PERNIS, Cuvier, 1817.

756. Honey Buzzard.

PERNIS APIVORUS.

Pernis apivorus (Linn.), Syst. Nat. i. p. 130 (1766); (Naum.), i. p. 367, Taf. 35, 36; Hewitson, i. p. 40, pl. xv.; Gould, B. of E. i. pl. 16; id. B. of Gt. Brit. i. pl. 9; Newton, i. p. 121; Dresser, vi. p. 3, pls. 364, 365, 366; Sharpe, Cat. B. Br. Mus. i. p. 344; Saunders, p. 339; Lilford, i. p. 21, pls. 11, 12; *P. a. orientalis*, Tacz. F. O. Sib. O. p. 50.

Buse boudrée, French; *Aguila de Moros*, Span.; *Falco pecchiajuolo*, Ital.; *Wespenbussard*, German; *Wespendief*, Dutch; *Hvepsevaage*, Dan.; *Hvepsehög*, Norweg.; *Bivråk*, Swed.; *Mehilaishaukka*, Finn.; *Osojed*, *Mishelovka-pchelojadnaya*, Russ.; *Khabas el graïn*, Moor.

♂ *ad.* (Germany). Crown and sides of head pale ashy blue, nape brownish; upper parts dark earth-brown, the back tinged with grey; quills tipped with blackish brown; tail greyish brown with dark brown bands; under parts white, the sides of the breast blotched with brown; bill blackish horn; cere yellowish at base, otherwise blackish; edge of gape, legs, and iris yellow. Culmen 1·35, wing 15·8, tail 11·0, tarsus 2·0 inch. The old female has the head and nape brown, the throat buffy white

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striped with dark brown, and the rest of the under parts white, broadly and closely barred with deep brown. The young bird has the head and neck white, slightly marked with dark brown; upper parts dark brown varied with white; under parts white, the breast with dark shaft stripes; another specimen is almost uniform dark chocolate-brown.

Hab. Europe generally, north to Lapland, but rarely; southern and central Scandinavia; Great Britain; North Africa in winter.

In general habits it differs from the true Buzzard, is a slighter bird, and has a comparatively longer tail. It feeds almost exclusively on insects, chiefly on the larvæ of wasps and bees, but is said by Naumann to feed on buds and vegetable matter in the spring and to plunder other birds' nests. Its call-note is a shrill *kee, kee, kee,* but as a rule it is a silent bird. Its nest is placed in a tree and is constructed of sticks, lined with fresh green foliage. The eggs, 2 to 3, rarely 4, in number, are deposited late in May or in June, and are white so richly blotched with rich reddish brown that the ground-colour is obscured; or else marbled with reddish brown on a rich fox-red ground, and measure about 2·3 by 1·64.

FALCO, Linn., 1766.

757. Gyrfalcon.

FALCO GYRFALCO.

Falco gyrfalco, Linn. Syst. Nat. i. p. 130 (1766); Naum. xiii. taf. 391; Gould, B. of Gt. B. i. pl. 16; Newton, Ooth. Wolley. p. 87, pl. viii. tab. C.; (Sharpe), Cat. B. Br. Mus. i. p. 416; Dresser, vi. p. 15, pl. 367; Saunders, p. 345; Lilford, i. p. 29, pl. 15; *F. rusticolus gyrfalco*, Ridgway, p. 246.

Jagdfalke, German; *Jagtfalk*, Dan., Norweg., and Swed.; *Riefsakfalle*, Lapp.; *Tunturivalli*, Finn.; *Krechet*, Russ.

♂ *ad.* (Norway). Upper parts dark slate-grey barred with light blue grey, in some places nearly white; head blackish grey with whitish markings on the nape and sides of the neck; rump and upper tail-coverts clear blue-grey barred with slate-blue; quills dark brown externally mottled with grey, the inner webs white with dark bars; tail slaty brown barred with blue-grey and tipped with white; a broad moustachial stripe slaty brown; under parts white, the breast and abdomen with dark drop-shaped stripes, the flanks and under tail-coverts barred with slaty brown; bill blue, becoming black towards the tip; cere, edge of eyelid, and feet yellow; iris nearly black. Culmen 1·35, wing 13·6, tail 8·5, tarsus 2·4 inch. Female similar but larger. The young bird has the head and neck buffy

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white striped with dark brown, the upper parts dark brown with buffy white margins, the under parts white, on the throat narrowly and otherwise broadly and closely striped with dark brown, sometimes so closely that scarcely any white is visible.

Hab. Northern Scandinavia and Lapland, rarely straying down to continental Europe; has once or twice been obtained in England; of doubtful occurrence in North Asia; Arctic North America.

Inhabits rocky localities and is a bold powerful bird, swift on the wing, and when caught and trained highly esteemed for falconry purposes being docile and courageous. It feeds on small mammals, such as squirrels, lemmings, &c., and birds, especially Willow Grouse and Ptarmigan. Its nest, which is constructed of sticks sparingly lined with grass, is placed on a rock or a tree, sometimes even on the ground, and in April or May 3 to 4 eggs are deposited, which are somewhat finer in texture of shell than those of *F. islandus*, and are so closely spotted or freckled with fox-red or reddish orange on a dull white ground that the ground-colour is often entirely obscured. In size they measure about 2·29 by 1·81.

758. Greenland Falcon.

FALCO CANDICANS.

Falco candicans, Gmel. Syst. Nat. i. p. 275 (1788); Naum. i. p. 269, Taf. 21; Gould, B. of Gt. Brit. i. pls. xiii., xiv., xv.; Newton, i. p. 36; (Sharpe), Cat. B. Br. Mus. i. p. 411; Dresser, vi. p. 21, pls. 368, 369; Saunders, p. 341; Lilford, i. p. 36, pl. 18; *Falco islandicus*, Lath. Ind. Orn. i. p. 32 (1790); Audubon, B. Am. pl. 366; Gould, B. of E. i. pl. 19; *F. islandus*, Ridg. p. 244 (nec. Gmel.); *F. holboelli*, Sharpe, P.Z.S. 1873, p. 415; (id.), Cat. B. Br. Mus. i. p. 415, pl. xiii.

Kirksoviarsuk-kakortuinak, Greenl.

♂ *ad.* (Greenland). General colour white, the feathers on the upper parts marked with a wide V-shaped black spot towards the tip, quills marked with black towards the tip; tail pure white, under parts slightly striated with black on the lower flanks; bill yellowish, becoming horn-blue towards the tip; legs yellowish; iris dark brown. Culmen 1·3, wing 14·0, tail 8·2, tarsus 2·75 inch. Female similar but larger. The young birds are more or less striped, with broad almost drop-shaped blackish brown markings above, and the head and under parts with narrow stripes, and the tail is more or less marked with blackish brown; bill pale horn-blue; legs greyish blue.

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Hab. Greenland, straying south to North-west Europe and Northern North America, and also found, though rarely, in Northern Asia.

In habits it does not differ from *F. gyrfalco*, and though like that bird strong and swift on the wing it is not held in such esteem by falconers as the Gyrfalcon, though in the times when falconry was a royal sport, trained birds were of great value chiefly for their beauty. It nests on cliffs, its nest and eggs resembling those of *F. gyrfalco*, but the latter are as a rule somewhat rougher in texture of shell.

759. Iceland Falcon.

FALCO ISLANDUS.

Falco islandus, Gmel. Syst. Nat. i. p. 271 (1788); Naum. i. Taf. 22, figs. 1, 2, Taf. 390, fig. 2; Hewitson, i. p. 22, pl. vii.; Gould, B. of Gt. Brit. i. pls. 11, 12; Newton, i. p. 46; (Sharpe), Cat. B. Br. Mus. i. p. 414, pl. 13, left figure; Dresser, vi. p. 25, pls. 370, 371; Saunders, p. 343; Lilford, i. p. 31, pls. 16, 17; *F. rusticolus*, Ridg. p. 245.

Falki, Vcidifalki, Valur, Icel.; *Fálkur*, Færoe; *Islandsk-Falk*, Dan.

♂ *ad.* (Iceland). Head and nape dull white striped with slaty black, upper parts dark brownish slate, barred with buffy white; the rump and upper tail-coverts dull slate-blue, barred with blue-grey; quills slate-black on the outer web marked, and on the inner web barred with buffy white; tail ash-grey barred with brownish slate and tipped with white; chin and upper throat white; rest of under parts white, the lower throat streaked with blackish brown, the breast and abdomen with blackish streaks terminating with a drop-shaped spot, the upper flanks with heart-shaped marks, the lower flanks and under tail-coverts with bars; bill horn-blue, darker at the tip; cere and legs yellow; iris dark brown. Culmen 1·35, wing 14·5, tail 8·9, tarsus 2·3 inch. Female similar but larger. The young bird differs from that of *F. gyrfalco* in having the head lighter, in lacking the blackish moustachial streak, and in having the back and tail less marked with lighter colour.

Hab. Iceland and southern Greenland, straying occasionally to continental Europe, Great Britain, and the East coast of North America.

In habits it does not differ from *F. gyrfalco*. Its eggs, 3 to 4 in number, are laid in May and are yellowish clay-coloured, very closely marked with reddish orange, but some

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are white somewhat sparingly blotched with reddish orange, whilst others are more profusely blotched with dull, almost chestnut-red. In size they measure about 2·28 by 1·81.

Of *Hierofalco uralensis*, Severtz and Menzbier (Orn. Geogr. Europ. Ross. i. p. 288, 1882) (*H. grebnitzkii*, Severtz) which appears to be very similar to, if not identical with, the present species or *F. gyrfalco*, I have not been able to examine a specimen.

760. Lorenz's Gyrfalcon.

FALCO LORENZI.

Falco lorenzi, Menzbier, Bull. B. O. Club, xi. p. 3 (1900).

ad. Resembles the northern Gyrfalcons in its plumage, the general colour of the upper parts being bluish, and it is barred like them, but it has the tarsus bare on more than half its length as in *F. milvipes*, to which it is said to be nearly allied, but differs conspicuously in colour.

Hab. Tomsk and Yeneseisk in Siberia.

Nothing is known respecting this bird except that three specimens were obtained in winter in the above named localities.

761. Altai Gyrfalcon.

FALCO ALTAICUS.

Falco altaicus (Menzbier), Orn. Turkest. p. 272 (1891).

♂ *ad.* Differs from *F. gyrfalco* in having the upper parts reddish brown washed with ash, the under parts ochraceous with tear-shaped dark brown stripes; tail brown, tipped with pale ochreous, the two middle feathers unbarred, the rest with indistinct oval transverse reddish brown spots; tarsus bare for more than half its length; bill bluish horn, yellowish at the base; cere and legs yellow. The young female differs from *F. gyrfalco* in having the crown, head, and upper parts dark brown with a few obsolete dull buff spots and bars, the tail barred with greyish buff, the under parts brown, the flanks and thighs barred, the rest of the under parts spotted and striped with buffy white. Culmen 2·0, wing 14·6, tail 9·10, tarsus 2·2 inch.

Hab. The mountain ranges bordering the plateau of Central Asia on the north and west.

I find nothing on record about the habits and nidification of this bird, but an egg, obtained in the Altai mountains with the parent bird, and now in my collection, resembles dark eggs of *F. candicans*, but is smaller, measuring 2·16 by 1·67.

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762. SAKER.

FALCO CHERRUG.

Falco cherrug, J. E. Gray in Hardw. Ill. Ind. Zool. ii. pl. 25 (1833–34); Blanf. F. Brit. Ind. Birds, iii. p. 420; *F. sacer*, Gmel. Syst. Nat. i. p. 273 (1788 nec. Forst.); Gould, B. of Asia, i. pl. 5; Dresser, vi. p. 59, pl. 376; (Sharpe), Cat. B. Br. Mus. i. p. 417; *F. lanarius*, Pall. Zoogr. Ross. As. i. p. 330 (1811 nec. Gmel.); Naum. i. p. 279, Taf. 23; Gould, B. of E. i. pl. 20; *F. cyanopus*, Thienem. Rhea, i. p. 62, Taf. 1, 2 (1846).

Faucon sacre, French; *Il sacro*, Ital.; *Würgfalke*, German; *Slagfalk*, Swed.; *Balabann*, Russ.; *Dughán*, Turk.; *Uctälgi*, Tartar; *Bas*, *Chark*, Pers.; *Saqer-el-hor*, Arab.; *Charg* ♀, *Chargela* ♂, Hindu.

♂ *ad.* (S. Russia). Crown and nape white tinged with rufous brown, and striped with blackish brown; upper parts generally dark earth-brown with pale fulvous margins; quills dark brown barred with white on the inner web; tail brown marked with buffy white oval spots, the middle feathers sometimes uniform brown; sides of head, chin, throat, and breast white, the first sparingly striped, the others with a few spots of blackish brown, moustachial stripe ill defined; rest of under parts white, more or less striped with elongated spots of blackish brown, sometimes almost unmarked; bill bluish horn, paler at the base; cere and legs yellow; iris dark brown. Culmen 1·0, wing 14·0, tail 8·0, tarsus 2·35 inch. Female similar but larger. The young bird has the head and nape buffy white closely streaked with blackish brown; upper parts darker than the adult; upper tail-coverts with broad dull rufous and buffy white margins; moustachial stripe well defined; chin white; under parts buffy white closely and broadly striped with blackish brown; cere and legs pale blue-grey; iris dark brown.

Hab. Eastern and south-eastern Europe, rarely straying west; not visiting Great Britain; has once occurred in Scandinavia; North-east Africa; Asia minor and Palestine (rare); Central Asia and Persia to N.W. India and China.

Is a frequenter of the plains and desert, and preys on lizards, small mammals, and birds. For falconry purposes it is highly esteemed and used to hawk gazelles, hares, bustards, &c. It nests in trees, rarely in rocks, and builds a tolerably well constructed, but not a large, nest of sticks, lined with finer twigs, grass, wool, &c., and in April lays 2 to 4 eggs, somewhat elongated oval in shape, richly marked and blotched with dull or dark red on a white or yellowish white ground, in size averaging 2·10 by 1·62.

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763. Shanghar Falcon.

FALCO MILVIPES.

Falco milvipes, Hodgs. in Gray's Zool. Misc. p. 81 (1844); Jerdon, Ibis. 1871, p. 240; Dresser, ix. p. 281, pl. 377; Blanf. F. Brit. Ind. Birds, iii. p. 421; *F. hendersoni*, Hume, Ibis. 1871, p. 240; id. Lah. to Yark., p. 171, pl. 1.

Aitalgu, Turki; *Chark*, Pers.

ad. (Asia Minor). Differs from *F. sacer* in having the upper parts rufous conspicuously barred with dark brown, the tail also similarly barred, and not marked with spots. The young bird has the bars irregular and ill defined, those on the tail more or less imperfect.

Hab. Transcaspia; Central Asia; Afghanistan and the Punjab (rare); Mongolia; the Pamir; Tibet; Yarkand; has occurred as far west as Tarsus, Tiflis, and Athens.

In habits it does not appear to differ from *F. cherrug*, and frequents also plains and the desert. Unlike the Saker it is not considered good for falconry purposes. It was found breeding in Transcaspia on the Afghan frontier by Messrs. Radde and Walter, who say that the nest was scantily formed, and was placed on the point of a precipice, and contained young birds.

764. Peregrine Falcon.

FALCO PEREGRINUS.

Falco peregrinus, Tunstall, Orn. Brit. p. 1 (1771); Naum. i. p. 285, Taf. 24, 25; Hewitson, i. p. 24, pl. viii.; Gould, B. of E. i. pl. 21; id. B. of Gt. Brit. i. pl. 17; Newton, i. p. 53; Dresser, vi. p. 31, pl. 372; Ridg. p. 247; Blanf. F. Brit. Ind. Birds, iii. p. 413; Saunders, p. 347; Lilford, i. p. 40, pls. 19, 20; *F. communis*, Gmel. Syst. Nat. i. p. 270 (1788); Sharpe, Cat. B. Br. Mus. i. p. 376; Tacz. F. O. Sib. O. p. 77; *F. anatum*, Bp. Comp. List, p. 4 (1838).

Faucon pèlerin, French; *Falcão*, Portug.; *Alcon*, Span.; *Falcone*, Ital.; *Tauben Falke*, *Wander Falke*, German; *Valk*, Dutch; *Vandrefalk*, Dan.; *Pilegrimsfalk*, Norweg.; *Pilgrimsfalk*, Swed.; *Rievsakfalle*, Lapp.; *Muuttohaukka*, *Pieni-Valli*, Finn.; *Sapsan*, *Sokol*, Russ.; *Teir-el-hor*, Moor.; *Tschakyr*, Arab.; *Bhyri* ♀, *Bhyri-bacha*, Hindu.; *Hayabusa*, Jap.

♂ *ad.* (Germany). Crown, nape, space round the eye and a broad mystacal stripe sooty black; upper parts generally dark slate-blue, paler and bluer on the rump and upper tail-coverts, with darker bars; quills

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greyish black narrowly tipped with white, and with oblong greyish white spots or bars on the inner web; tail blackish with slate-blue bars, becoming darker towards the end and narrowly tipped with brownish white; under parts warm buffy white, the throat and upper breast striped, the rest of the under parts boldly barred with blackish; bill bluish horn, bluer at the base; cere and legs yellow; iris brown. Culmen 1·1, wing 12·2, tail 6·4, tarsus 2·2 inch. Female similar but larger. In the young bird the black on the head and neck is tinged with brown; crown and nape marked with dull white and rufous white; upper parts dark brown with paler margins; tail dark greyish brown, tipped with white and irregularly barred with rufous buff; under parts white, tinged with rufous buff and broadly striped with blackish brown; cere and feet bluish.

Hab. Europe generally, from Lapland to the Mediterranean, Greenland, the Færoes; Great Britain; Canaries; Africa south to Natal; Asia generally, from Kamchatka to China, Manilla, India, Borneo, Java, and Sumatra, east to Japan; America from the high north to Argentina; the West Indies.

This, one of our most active and powerful falcons, frequents rocks, woods, and mountainous localities, and will occasionally visit cities and villages in pursuit of pigeons. As a rule it prefers the vicinity of water and is often to be met with on the sea-coast. It preys on pigeons, game-birds, water-fowl of various kinds, small mammals, &c. Its call is a loud clear *kaak, kaak, kaak*, but is not often heard except in the breeding season. It nests on the ledge of a rock, on a tree, or even on the ground, making a scanty nest or utilizing that of some other bird, and in March or April 4, sometimes only 3, eggs are deposited. These are usually dull brick-red in ground-colour closely spotted or dotted with reddish brown or dark red, but some are blotched with rich rufous on a reddish or yellowish or even on a nearly pure white ground. In size they average about 2·03 by 1·61, but American eggs, as a rule, are rather larger. The Peregrine exhibits great attachment to its nesting place, and will occupy the same site for many years in succession.

765. Lesser Peregrine.

FALCO PUNICUS.

Falco punicus, Levaill. junr. Expl. Algér. Atlas, Ois. pl. I (1850); Irby, Orn. Str. Gibr. p. 191, pl. 9; *F. minor*, Dresser, vi. p. 43, pl. 373 (nec. Bp.); *F. brookei*, Sharpe, Ann. and Mag. Nat. Hist. xi. p. 20 (1873).

♂ *ad.* (Morocco). Differs from *F. peregrinus* in being smaller, the under parts more ruddy in colour, and in having the legs and feet much

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more slender. Culmen 1·05, wing 11·0, tail 5·4, tarsus 1·75 inch. Female similar and scarcely larger. The young bird resembles that of *F. peregrinus* but is smaller, has the upper parts paler, and the striations on the under parts narrower and more profuse.

Hab. North Africa; Rhodes; Asia Minor rarely.

In habits and nidification this species does not appear to differ from *F. peregrinus*.

766. Barbary Falcon.

FALCO BARBARUS.

Falco barbarus, Linn. Syst. Nat. i. p. 125 (1766); Sharpe, Cat. B. Br. Mus. i. p. 386; Dresser, iii. p. 47, pl. 347; Shelley, B. of Egypt, p. 187; Blanf. F. Brit. Ind. Birds, iii. p. 417; *F. pelegrinoides*, Temm. Pl. Col. 479 (1824); *F. babylonicus*, Gurney, Ibis, 1861, p. 218, pl. vii.

Bourni, Arab.; *Shâhin, Safed Shahin*, Hindu.

♀ *ad.* (N. Africa). Upper parts paler and greyer than in *F. peregrinus*, the head lighter; nape rusty red, blotched with blackish slate; under parts creamy white, tinged with rufous; throat and breast unmarked; flanks and lower abdomen faintly barred with blackish; soft parts as in *F. peregrinus*. Culmen 0·9, wing 11·0, tail 5·5, tarsus 1·7, middle toe with claw 2·0 inch. Male similar, but somewhat smaller. The young bird resembles that of *F. punicus*.

Hab. Northern Africa, straying rarely to the northern shores of the Mediterranean; South-west and Central Asia; North-West India as far south as Nerbudda, and as far east as Oude in winter.

In habits it resembles the Peregrine, and being bold, strong, and docile is highly esteemed by falconers. It frequents open dry country, and nests in cliffs and also in old buildings, its eggs resembling those of the Peregrine, but are smaller. Birds from Asia (*F. babylonicus*) are as a rule rather larger in size.

767. Lanner.

FALCO FELDEGGI.

Falco feldeggi, Schlegel, Abh. Geb. Zool. p. 3, Taf. 10, 11 (1841); Sharpe, Cat. B. Br. Mus. i. p. 389; Dresser, vi. p. 51, pl. 375; *F. lanarius*, Schlegel, Rev. Crit. p. 2 (1894 nec. Pall.); Gould, B. of As. i. pl. 6; *F. erlangeri*, Kleinschmidt, Aquila, 1901, p. 33.

Feldeggsfalke, Germ.; *Lanario*, Ital.; *Sager-schahin Täir el Hór*, Arab.

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♂ *ad.* (Egypt). Forehead dull white; crown and nape pale creamy rufous, finely striated with blackish, the lower nape blotched with brown; forepart of back and wing-coverts dull slaty brown, barred and tipped with buffy ash-grey, becoming slaty ash, barred with ash-blue on the lower back and upper tail-coverts; quills ashy black, barred with white on the inner web; tail ashy brown, closely banded with ashy grey, and tipped with buffy white; space round the eye and an irregular stripe to the nape deep brown; moustache small and narrow; chin and upper throat white; rest of under parts buffy white, with drop-shaped blackish brown spots and stripes; bill pale horn at base, dark horn at tip; cere and legs yellow; iris brown. Culmen 1·2, wing 13·15, tail 7·3, tarsus 2·0 inch. Female similar but larger. The young bird has the crown paler, striped with blackish brown, the upper parts dull brown, with paler margins, the tail greyish brown, the outer feathers irregularly barred, and tipped with white, the under parts white, the breast and abdomen broadly striped with dark brown; legs dull plumbeous, tinged with yellow.

Hab. Southern Europe, rarely straying further north; North Africa; Asia Minor (rare); Palestine.

Does not differ appreciably from its allies in general habits; it frequents plains, rocky localities, as also groves, lagoons, and marshes when water-fowl are found in any numbers. With the Arabs it is held in high esteem for falconry purposes, though European falconers consider it as inferior to the Peregrine. As a rule it nests in the rocks, and has, in Egypt, been found breeding on the pyramids, and in Spain in trees, having taken possession of a deserted nest of some other large bird. When placed on a rock its nest is scanty, being merely a little material collected together. Its 4 eggs, which are usually deposited in April, closely resemble those of the Saker, but are as a rule darker; in size they average 2·13 by 1·59. Examples from N.W. Africa (*F. erlangeri*) are as a rule paler, and less marked with blackish, especially on the crown.

768. MERLIN.

FALCO ÆSALON.

Falco æsalon, Tunstall, Orn. Brit. p. i. (1771); Naum. i. p. 303, Taf. 27; Hewitson, i. p. 30, pl. x. fig. 1; Gould, B. of E. i. pl. 24; id. B. of Gt. Brit. i. pl. 19; Newton, i. p. 74; Dresser, vi. p. 83, pls. 380, 381; (Tacz.), F. O. Sib. O. p. 87; Saunders, p. 351; Lilford, i. p. 50, pls. 24, 25; *F. regulus*, Pall. Reise, ii. Anhang, p. 707 (1773); David and Oust. Ois. Chine, p. 34; Sharpe, Cat. B. Br. Mus. i. p. 406; (Blanf.), F. Brit. Ind. Birds, iii. p. 426; *F. lithofalco*; Gmel. Syst. Nat. i. p. 278 (1788).

Faucon Émérillon, French; *Esmerejon*, Span.; *Smeriglio*, Ital.; *Zwergfalke*, Germ.; *Smelleken*, Dutch; *Steenfalk*, *Dværgfalk*,

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Dan. and Norweg.; *Dvergfalk*, Swed.; *Pikkuhaukka*, *Poutahaukka*, Finn.; *Cicasfalli*, Lapp.; *Derbnic*, Russ.; *Juju*, Arab.; *Dourai* ♀, *Dourela* ♂, Hindu.; *Kocho-genbo*, Jap.

♂ *ad.* (Scotland). Crown and upper parts clear slate-blue, with blackish shaft lines; a collar and sides of neck pale rufous, with dark lines; quills blackish, with white bars on the inner web; tail paler than the back, with a broad subterminal black band, and with indistinct basal bars; sides of head dull white, with fine blackish stripes; chin and upper throat white; rest of under parts white, washed with rufous and striped with blackish brown, the thigh-feathers more rufous; bill bluish horn, darker at the tip; legs and cere yellow; iris dark brown. Culmen 0·7, wing 7·9, tail 5·3, tarsus 1·45 inch. Female larger and differing in having the upper parts dark brown, with a greyish tinge, with black shaft-stripes, edged and spotted with reddish brown; tail dark brown, with rufous buff bands and tipped with buffy white; chin and upper throat white; rest of under parts whitish, broadly striped with brown. The young resemble the female, but males are a little greyer on the tail and rump.

Hab. Europe generally, from Iceland and Northern Scandinavia to Great Britain; southern Europe and North Africa in winter, south to Nubia; Asia east to Corea, north to Northern Siberia, south to Northern India, Mongolia, China and Japan in winter.

Frequents moors, rocks, and more open places than the Hobby, and is a bold and game bird, swift and active on the wing, preying chiefly on small birds and mammals, but it also feeds to some extent on insects. It generally nests on the ground, but in some countries sometimes makes use of the nest of some other bird in trees. When constructed by the bird itself the nest is flat and not large, built of sticks and heather. The eggs, from 4 to 6 in number, are dull brick-red closely spotted and mottled with dark brownish red, sometimes faintly tinted with purple, and in size average 1·55 by 1·21.

769. Hobby.

FALCO SUBBUTEO.

Falco subbuteo, Linn. Syst. Nat. i. p. 127 (1766); Naum. i. p. 296, Taf. 26; Hewitson, i. p. 26, pl. ix. fig. 1; Gould, B. of E. i. pl. 22; id. B. of Gt. Brit. pl. 18; Newton, i. p. 65; Dresser, vi. p. 69, pls. 378, 379; Sharpe, Cat. B. Br. Mus. i. p. 395; Tacz. F. O. Sib. O. p. 84; Blanf. F. Brit. Ind. Birds, iii. p. 422; Saunders, p. 349; Lilford, i. p. 44, pls. 20, 21.

Le Hobereau, French; *Alcotán*, Span.; *Falcão tagarote*, Portug.; *Lodolajo*, Ital.; *Lerchenfalke*, Germ.; *Boomvalk*,

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Dutch; *Larkefalk*, Dan; *Lärkfalk*, Swed.; *Leivohaukka*, Finn.; *Tscheglok*, *Sokol-Bielogorlik*, Russ.; *Morassani*, Oude; *Chigohayabusa*, Jap.

♂ *ad.* (Finland). Upper parts dark slate-grey, clearer on the rump and upper tail-coverts, darker and often tinged with brown on the head; lores, supercilium, and an ill-defined nuchal collar, buffy white, the last inclining to ferruginous; quills black, on the inner web irregularly barred with rufous; tail slate-grey, all but the two middle feathers barred on the inner web and tipped with ferruginous; cheek and moustache black, the chin and sides of the neck warm creamy white; rest of the under parts creamy white, the breast and flanks striped with black; under wing-coverts and axillaries buffy white, the former striped, the latter barred with blackish brown; thighs and under tail-coverts rich rust-red; bill light blue-black, yellowish at the base; cere and legs yellow; iris brown. Culmen 0·7, wing 10·0, tail 6·0, tarsus 1·1 inch. Female similar but larger. The young bird has the upper parts blackish brown, with fulvous margins, the under parts fulvous white, the breast and flanks blotched and striped with blackish brown, the lower abdomen becoming rufescent fulvous, also streaked and mottled.

Hab. A summer visitor to the British Islands and Northern Europe up to about 65° N.; the Canaries; Africa south to the Cape Colony; Asia Minor and Asia east to China, Corea, and Japan, north to Kamchatka, south to the Himalayas and the plains of India. In South Africa it is replaced by *F. cuvieri*, Smith, and in India and the Malay Archipelago by *F. severus*, Horsf.

Frequents woodlands and groves and is to some extent crepuscular in its habits. Its food consists largely of insects of various kinds, but it is swift on the wing and bold, and frequently preys on small birds. It is a late breeder and generally makes use of the deserted nest of a crow or some other large bird, and in June deposits 3 to 5 eggs, which on a yellowish white ground are closely covered with yellowish red spots and blotches, which but seldom become rufous like the eggs of the Kestrel. In size they average 1·62 by 1·31.

770. Eleonora's Falcon.

FALCO ELEONORÆ.

Falco eleonoræ, Gené, Rev. Zool. 1839, p. 105; (Gurney), Ibis, 1869, p. 445, pl. xvi.; Dresser, vi. p. 103, pl. 383; Sharpe, Cat. B. Br. Mus. i. p. 404; *F. arcadicus*, Linderm. Isis, 1843, p. 329, Taf. 1; *F. dichrous*, Erhard, Naumannia, 1858, p. 25.

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Falco della Regina, Ital.; *Barbáki*, *Warrakion*, Greek.

♂ *ad.* (Cyclades). General colour dark slate-grey, tinged with brown on the upper parts, rather clearer on the rump and upper tail-coverts; quills blackish brown, washed with slate; tail slate-colour, the outer feathers slightly barred with dull blackish; under parts blackish grey, tinged with rufous here and there, the thighs and under tail-coverts clear dark slate-colour; beak horn-blue, paler at the base; cere pale greenish yellow; legs pale lemon-yellow; iris brown. Culmen 0·75, wing 11·9, tail 7·5, tarsus 1·3 inch. Female dusky brown above, tinged with slate, the nape tinged with rufous; tail slate-grey, tipped with fulvous, and thickly barred with rufous and dusky; orbital region, lores, and moustache black; hind-cheeks and throat rich buff; under parts buff, becoming rufous on the abdomen, and striped with black; thighs deep chestnut, with black shaft-stripes; legs and feet greenish yellow. Culmen 0·85, wing 12·9, tail 7·5, tarsus 1·4 inch. The young bird resembles the female, but the feathers on the upper parts are margined with pale rufous; cheeks, under parts, and thighs pale rufous buff, the dark markings well defined.

Hab. The islands in the Mediterranean, rarer on the south shores of Europe; North-west and West Africa, south to Madagascar; Palestine, Syria.

Frequents rocky localities, and in general habits resembles *F. subbuteo*. Its call-note is a not very loud *kek*, *kek*, or *wek*, *wek*, *wek*. On the wing it is swift and active, and is recognizable by its long wings. It preys chiefly on small birds of various kinds, but also on insects and reptiles. It makes no nest, but deposits its eggs late in July or in August on the ledge of a cliff or on the ground. These are 2 or 3 in number, and resemble those of *F. subbuteo*, and measure about 1·68 by 1·32.

771. Red-legged Falcon.

FALCO VESPERTINUS.

Falco vespertinus, Linn. Syst. Nat. i. p. 129 (1766); Hewitson, i. p. 28, pl. ix. figs. 2, 3; (Gould), B. of Gt. Brit. i. pl. 20; Newton, i. p. 69, Dresser, vi. p. 93, pl. 382; (Sharpe), Cat. B. Br. Mus. i. p. 443; (Tacz.), F. O. Sib. O. p. 90; Saunders, p. 353; Lilford, i. p. 45, pl. 23; *F. rufipes*, Beseke, Vög. Kurl. p. 20, Taf. 3, 4 (1792); Naum. i. p. 311, Taf. 28; Gould, B. of E. i. pl. 23.

Faucon kobez, French; *Falco cuculo*, Ital.; *Rotfussfalke* Germ.; *Rödfodfalk*, Dan.; *Rödbent Falk*, Swed.; *Punajalka-haukka*, Finn.; *Kobtschik*, Russ.; *Kirghé*, Tartar.

♂ *ad.* (Malta). Entire upper parts dark plumbeous, paler on the wing-coverts; quills silver-grey above, black below; tail black; under parts

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blue-grey ; thighs, vent, and under tail-coverts rich chestnut ; under wing-coverts greyish black ; bill horn-colour, blackish at tip; cere, bare space round the eye, and legs bright brownish red ; iris bright brown. Culmen 0·75, wing 9·7, tail 5·8, tarsus 1·0 inch. The female has the head, neck, and sides of neck rufous ; upper parts and tail ashy grey, barred with darker grey ; quills ashy grey, barred with reddish white on the inner web ; throat and cheeks white, tinged with rufous ; moustache and rest of under parts, with the under wing-coverts rufous like the head ; soft parts duller than in the male. The young bird resembles the female, but is paler, the head and under parts considerably paler, the forehead hoary white, and the crown dark striped.

Hab. Europe generally, up to Sweden and Archangel, rarer in the west; a somewhat rare visitor to Great Britain, has once occurred in Ireland, and has strayed to the Canaries; Africa south to Damaraland in winter; Asia Minor, western and central Asia, becoming rare further east, but has occurred as far east as the Baikal district.

In habits it resembles the Kestrel more than the Hobby. It affects groves and the open country rather than the forest, and feeds chiefly on insects of various kinds, occasionally however capturing small birds. Its note is a clear, shrill *kri*, uttered several times in succession. It breeds in trees, frequently taking possession of deserted nests of Crows and Magpies, and in June deposits 3 to 4 eggs, which resemble those of *F. subbuteo*, but are smaller and darker, more approaching those of the Kestrel. In size they average 1·45 by 1·16.

772. Eastern Red-legged Falcon.

FALCO AMURENSIS.

Falco amurensis, Radde, Reis. Ost. Sib. Vögel, p. 102, Taf. i. fig. *a*, *b* (1863) ; (Sharpe), Cat. B. Br. Mus. i. p. 445 ; (Blanf.), F. Brit. Ind. Birds, iii. p. 424 ; (Tacz.), F. O. Sib. O. p. 93 ; Gurney, Ibis, 1868, p. 41, pl. ii.

♂ *ad.* (Siberia). Resembles *F. vespertinus*, but has the wing lining and axillaries pure white. Culmen 0·75, wing 9·0, tail 5·0, tarsus 1·1 inch. The female differs from that of *F. vespertinus* in having the head browner, the under parts paler, the breast spotted, and the flanks barred with blackish ; the wing-lining white with brown spots, and the axillaries barred white and dark brown.

Hab. South-eastern Siberia; Mongolia; Northern China; wintering in India, Burma, and East Africa; has occurred in

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Asia as far west as Pegu, the Western Himalayas, the Deccan, the Nilgiris, the Carnatic, and Ceylon.

In habits it does not differ from *F. vespertinus*, and like that species feeds almost entirely on insects of various kinds and small reptiles. Its nest and eggs also resemble those of that species.

773. Kestrel.

FALCO TINNUNCULUS.

Falco tinnunculus, Linn. Syst. Nat. i. p. 127 (1766); Naum. i. p. 323, Taf. 30; Hewitson, i. p. 32, pl. x. figs. 2, 3; Gould, B. of E. i. pl. 26; Newton, i. p. 78; Dresser, vi. p. 113, pl. 384; (Sharpe), Cat. B. Br. Mus. i. p. 425; (Tacz.), F. O. Sib. O. p. 95; Seebohm, B. Jap. Emp. p. 194; Saunders, p. 355; Lilford, i. p. 53, pl. 26; *F. alaudarius*, Gmel. Syst. Nat. i. p. 279 (1788); Gould, B. of Gt. Brit. i. pl. 21; (Blanf.), F. Brit. Ind. Birds, iii. p. 428; *F. t. japonicus*, Temm. and Schlegel, Faun. Jap. Aves, p. 2, pls. 1, 1B; *F. t. canariensis* (Koenig), J. f. O. 1890, p. 327, pt. i.

Cresserelle, French; *Peneireiro, Francelho*, Portug.; *Cernicalo*, Span.; *Gheppio*, Ital.; *Turmfalke*, Germ.; *Taarnfalk*, Norweg. and Dan.; *Tornfalk*, Swed.; *Tornihaukka*, Finn.; *Obiknovennaya-Pustelga*, Russ.; *Bouschrada*, Arab.; *Karontia, Narzi*, ♀, *Narzinak* ♂, Hindu.; *Maguso-daka*, Jap.

♂ *ad.* (England). Head, neck, lower back, rump, upper tail-coverts, and tail blue-grey; the head narrowly striped, and the tail subterminally broadly banded with black; rest of upper parts chestnut-red, with black triangular spots; quills blackish, the inner web with whitish bars; forehead and eyebrow whitish; moustache blackish grey; under parts rufescent fawn, the breast streaked, the sides spotted with black; thigh-feathers pale chestnut, unspotted; bill yellow at base, then blue, tipped with black; cere, orbital region, and legs yellow; iris brown. Culmen 1·75, wing 9·2, tail 7·0, tarsus 1·6 inch. The female has the upper parts and tail rufous, the former barred, the latter banded with black and tipped with fulvous; chin and abdomen pale dull fulvous; breast dull rufous, striped with black; flanks indistinctly barred. The young bird resembles the female, but is paler.

Hab. Europe generally, from Lapland to the Mediterranean, but chiefly in summer in the northern parts; Madeira, the Canaries and Azores; Africa south to Abyssinia; Asia Minor and Asia north to northern Siberia, south to northern India; China; Corea; Japan.

Inhabits the woods, plains, and cultivated localities, where it may be seen carefully quartering the ground, occasionally

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hovering in the air in search of its prey. It feeds on mice, insects, and reptiles, but seldom on small birds. Its cry is a shrill *kee, kee, kee*, uttered several times in succession. It breeds in old ruins, church towers, cliffs, &c., and sometimes in trees, taking possession of deserted nests of other birds, and in April 4 to 5 eggs are laid, which in ground-colour vary from white and reddish white to dull reddish, and are closely marked and blotched with fox-red, dull chestnut, and purplish chestnut. In shape they are roundish oval, and in size average about 1·61 by 1·29.

In tone of plumage the Kestrel varies considerably, birds from Madeira, the Canaries, East Africa, and Japan being very dark in colouration, and have indeed been described as specifically separable, but I cannot see that this view is correct.

774. Lesser Kestrel.

FALCO CENCHRIS.

Falco cenchris, Naum. Vög. Deutschl. i. p. 318, Taf. 29 (1822); Dresser, vi. p. 125, pl. 385; Blanf. F. Brit. Ind. Birds, iii. p. 430; Saunders, p. 357; Lilford, i. p. 55; pl. 27; *F. tinnunculoides*, Temm. Man d'Orn. i. p. 31 (1822); Gould, B. of E. i. pl. 27; *F. pekinensis* (Swinhoe), P.Z.S. 1871, p. 341; Sharpe, Cat. B. Br. Mus. i. p. 437; "*F. naumanni*, Fleisch"; Sharpe, tom. cit. p. 435 (1874).

Faucon cresserellette, French; *Primilla, Primita*, Span.; *Rötelfalke*, Germ.; *Grillajo*, Ital.; *Krasnaya Pustelga*, Russ.

♂ *ad.* (Styria). Differs from *F. tinnunculus* in being smaller, in having the back, scapulars, and wing-coverts rich cinnamon, or vinous brick-red, unspotted, some of the inner secondaries slate-grey instead of rufous, and the claws white, not blackish. Culmen 0·75, wing 9·0, tail 6·0, tarsus 1·2 inch. The female resembles that of *F. tinnunculus*, but is smaller and has white claws.

Hab. Southern Europe; a doubtful straggler to the British Isles; Africa as far south as Damaraland, and occasionally to the Cape Colony in winter; Asia Minor and Southern Asia east to China, and India in the winter.

In general habits it resembles *F. tinnunculus*, but is more gregarious, and feeds more generally on insects. It nests also frequently in large colonies, in old ruins, buildings such as church towers, &c., hollow trees, and sometimes in cliffs, making a very scanty nest, and in May deposits 4 to 5 or 6 eggs, which vary considerably but resemble those of *F. tinnunculus*, though they are more fox-red and lighter in colour, and smaller in size, averaging 1·44 by 1·11.

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PANDION, Savigny, 1810.

775. OSPREY.

PANDION HALIAËTUS.

Pandion haliaëtus (Linn.), Syst. Nat. i. p. 129 (1766); (Naum.), i. p. 241, Taf. 16; Hewitson, i. p. 19, pl. vi.; Gould, B. of E. i. pl. 12; id. B. of Gt. Brit. i. pl. 12; Newton, i. p. 30; Sharpe, Cat. B. Br. Mus. i. p. 449; Dresser, vi. p. 139, pls. 386, 387; Ridgway, p. 255; Tacz. F. O. Sib. O. p. 52; Blanford, F. Brit. Ind. Birds, iii. p. 314; Saunders, p. 359; Lilford, i. p. 11, pl. 8; *P. carolinensis* (Gmel.), Syst. Nat. i. p. 263 (1788); *P. leucocephalus*, Gould, P.Z.S. 1837, p. 138.

Balbusard, French; *Aguia pesqueira*, Portug.; *Aguila pescador*, Span.; *Falco pescatore*, Ital.; *Fischadler*, German; *Visch-arend*, Dutch; *Fiskeörn*, Dan. and Norweg.; *Fiskljuse*, Swed.; *Kuollifalli*, *Tschiftschä*, Lapp.; *Kalasääski*, Finn.; *Skopà*, Russ.; *Bou-haut*, Moor.; *El Mansur*, *Ketaf*, Arab.; *Machariya*, *Machamanga*, Hindu.; *Misago*, Jap.

♂ *ad.* (Sweden). Head white, the crown striped with blackish brown, which forms almost a patch before and above the eye; nape feathers elongated, lanceolate, tipped with blackish brown and washed with yellowish; ear-coverts and a stripe to hind-neck blackish brown; upper parts dark brown, the back faintly glossed; quills blackish brown, marked with white on the basal part of the inner webs; tail dark brown, the outer feathers dull white on the inner webs and dark banded; under parts white, the breast faintly marked with pale and dull ochreous brown; outer toe reversible; under surface of toe rough, covered with small pointed scales; feathers wanting the accessory plumule; bill blackish horn; cere blue-grey; legs pale plumbeous; iris bright yellow. Culmen 1·9, wing 19·3, tail 8·7, tarsus 2·2 inch. Female similar but larger, and generally has the breast more marked with brown. The young bird has the head and neck more varied with blackish brown, the feathers on the upper parts and wings margined or tipped with white, the tail more conspicuously barred, and tipped with white, and the under parts washed with rufous isabelline.

Hab. Europe, north to Lapland, not breeding in Ireland; Asia, east to Japan; Africa, south to Natal; Australia; New Zealand; America from the high north, south to Brazil.

Frequents the vicinity of inland lakes and rivers, or the sea-coast, where it can obtain fish which swim near the surface of the water, for it feeds exclusively on fish, which it obtains by plunging down from a considerable altitude. Sometimes it strikes too large a fish, and I have seen one which on so doing

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was carried out to sea and drowned. Its call-note is a somewhat clear *kai, kai, kai,* or a harsh *krau.* It usually nests on trees, occasionally however on rocky islets or old buildings, and in some countries it nests in communities. The nest is a bulky structure of sticks, worked together with turf and roots, and lined with moss, and the eggs, generally 3, sometimes 4, in number, are deposited in April or May. These are richly blotched with dark chestnut-red surface-markings and a few purplish grey shell-spots or blurs, on a dull white, bluish white, or buffy white ground, and vary a good deal in size, but average 2·40 by 1·76. American eggs run a trifle larger, and are recognizable by their strong musky smell.

PHALACROCORAX, Brisson, 1760.

776. Cormorant.

PHALACROCORAX CARBO.

Phalacrocorax carbo (Linn.), Syst. Nat. i. p. 216 (1766); (Naum.), xi. p. 52, Taf. 279; Hewitson, ii. p. 471, pl. cxxx. fig. 2; Gould, B. of E. v. pl. 407; id. B. of Gt. Brit. v. pl. 52; Dresser, vi. p. 151, pl. 388; David and Oust. Ois. Chine, p. 532; Audubon, B. Amer. vii. p. 123, pl. 415; Ridgway, p. 78; Grant, Cat. B. Br. Mus. xxvi. p. 340; Tacz. F. O. Sib. O. p. 1072; Blanf. F. Brit. Ind. Birds, iv. p. 340; Saunders, p. 361; Lilford, vii. p. 1, pl. i.; *P. sinensis* (Shaw and Nodder), Nat. Misc. xiii. pl. 529 (1801); *P. cormoranus* (Meyer and Wolf), Taschenb. ii. p. 576 (1810); (Naum.), xi. p. 52, Taf. 279; *P. carboides*, Gould, P.Z.S. 1837, p. 156; id. B. of. Austral. vii. pl. 66.

Grand Cormoran, French; *Corvo marinho*, Portug.; *Cuervo marino*, Span.; *Cormorano*, Ital.; *Kormoran-Scharbe*, German; *Aalscholver*, Dutch; *Skarv, Aalekraake*, Dan. and Norweg.; *Storskarf*, Swed; *Skarffa*, Lapp.; *Kalakorppa, Haikara*, Finn.; *Obiknovennui-Baklan*, Russ.; *Agag*, Arab.; *Gharrad*, Moor.; *Ghogur, Pan-kowa*, Hindu.; *U*, Jap.

♂ *ad.* (Scotland). Chin and sides of the head skirting the bare part at the base of the bill white; head, neck, and under parts glossy purplish black; nuchal feathers elongated; a few hair-like feathers on the neck white; upper parts bronze-green margined with blackish; the lower back and rump purplish black; quills and tail greyish black; a pure white patch on each thigh; bill yellowish white at the base, otherwise dusky brown; gular sac yellow; bare space round the eye greenish brown; iris grass-green; legs and feet black. Culmen 3·6, gape 4·1, wing 13·5, tail 7·0, tarsus 2·7 inch. Female similar but smaller, duller in colour with a smaller crest. In the winter the colours are duller and greener and the head and neck are covered with slender white filamentous plumelets. The

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young birds are dark brown above, dull white marked with brown below; bill dark brown above, pale brown below; iris brown.

Hab. Europe generally; Greenland; Iceland; Africa south to the Cape Colony; Asia north to Kamchatka, east to Japan, south to the Malay Peninsula; Australia; New Zealand and Chatham Islands.

Frequents both inland waters and the sea-coasts, but with us at least is most frequently to be met with on salt water. Its flight is direct and swift, though it appears somewhat clumsy in rising from the water, and strikes the water with its feet for some distance before it is fairly on the wing. It swims however with ease and dives even better, and trusts chiefly to its dexterity and speed under water to obtaining its food, for it feeds entirely on fish and is extremely voracious. On land it walks heavily and clumsily. Though naturally shy and wary it is easily tamed, and in China especially is trained to capture fish for its master.

It breeds on cliffs, rocks, or trees, usually in colonies, and when placed on a tree the nest is constructed of sticks lined with grass or weeds, or if on a rock, of a few sticks and seaweed. The eggs, usually 4 in number, are laid late in April or in May, and are elongate in shape, bluish white in colour closely incrusted with a layer of chalky substance, and in size average 2·30 by 1·51.

777. Temminck's Cormorant.

PHALACROCORAX FILAMENTOSUS.

Phalacrocorax filamentosus (Temm. and Schlegel), Faun. Jap. Aves, p. 129 (1850); Grant, Cat. B. Br. Mus. xxvi. p. 350; *P. capillatus*, (Temm. and Schlegel), Faun. Jap. Aves, pls. 83 and 83B (1850); Tacz. F. O. Sib. O. p. 1075; Seebohm, B. Jap. Emp. p. 209.

♂ *ad.* (Japan). Differs from *P. carbo* in having the upper parts greenish bronze margined with dark green, the rest of the plumage oil-green in tinge, the head and neck dark greenish blue; the white patch bordering the gular pouch mottled with dark greenish black, the head and neck covered with long narrow white feathers. Culmen 2·7, wing 12·13, tail 5·8, tarsus 2·5 inch. After the breeding season the white feathers on the head and neck are cast. The young resemble those of *P. carbo*, but in all plumages this species may be distinguished by the shape of the bare space on the throat.

Hab. The coasts of eastern Siberia, Corea, Japan, and China.

In habits and nidification this species does not appear to differ from *P. carbo*.

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778. Red-faced Cormorant.

PHALACROCORAX BICRISTATUS.

Phalacrocorax bicristatus, Pall. Zoogr. Ross. As. ii. p. 301, pl. lxxv. fig. 2; Seebohm, B. Jap. Emp. p. 211; Grant, Cat. B. Br. Mus. xxvi. p. 358; *P. urile* (Gmel.), Syst. Nat. i. pt. 2, p. 575 (1788 partim); Ridgway, p. 80; (Tacz.), F. O. Sib. O. p. 1078.

♂ *ad.* (Commander Island). Head dark greenish blue becoming steel-blue on the neck; the lower neck, lower back, rump, upper tail-coverts and under parts deep oily bronze-green; scapulars and sides of upper back rich greenish and violet-bronze with a purple tinge; a tuft or crest on the crown and one on the nape bronze-green; a white patch on each flank. In the breeding season the neck and rump are covered with scattered straw-yellow filamentous feathers; feathers of forehead separated from the base of the culmen by a strip of bare skin connecting the naked lores; gular pouch blue bordered behind by purplish red corrugations; lores, orbits, and naked frontal skin bright orange. Culmen 2·25, wing 10·5, tail 6·3, tarsus 2·15 inch. Female similar but rather smaller. The young bird is dusky brown with a faint purplish tinge, darker and more glossy on the upper parts.

Hab. The coasts of Kamchatka and eastern Siberia, the Prybilof, Aleutian, and Kurile Islands, in winter south to Japan.

In habits this Cormorant does not appear to differ from its allies, and its eggs resemble those of *P. carbo* and vary in size from 2·36 by 1·49 to 2·48 by 1·69.

779. Pallas's Cormorant.

PHALACROCORAX PERSPICILLATUS.

Phalacrocorax perspicillatus, Pall. Zoogr. Ross. As. ii. p. 305 (1811); Gould, Zool. Voy. Sulph. p. 49, pl. xxxii.; Grant, Cat. B. Br. Mus. xxvi. p. 357; Ridgway, p. 81; Stejn., Proc. U. S. Nat. Mus. 1883, p. 65.

Ad. Resembles *P. bicristatus* but is considerably larger, the crown and nape are bronze-purple, the general colour of the body less blue; eye surrounded with a broad white ring of naked skin, the naked skin round the base of the bill and gular sac mixed red, white, and blue. Culmen 3·75, wing 13·5, tail 7·2, tarsus 2·8 inch.

Hab. Bering Island formerly, but is extinct since about 1852.

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780. Pelagic Cormorant.

PHALACROCORAX PELAGICUS.

Phalacrocorax pelagicus, Pall. Zoogr. Ross. As. ii. p. 303, pl. lxxvi. (1811); David and Oust. Ois. Chine, p. 533; Seebohm, B. Jap. Emp. p. 210; Grant, Cat. B. Br. Mus. xxvi. p. 360; (Tacz.), F. O. Sib. O. p. 1080; *P. resplendens*, Aud. Orn. Biogr. v. p. 148, pl. 412, fig. 1 (1839).

Morskoi Uril, Russ.; *U-garasu*, Jap.

♂ *ad.* (N. W. America). Differs from *P. bicristatus* in having the feathers on the forehead extended to the base of the culmen; head and neck glossy violet-black, purplish towards the head, the lower neck tinged with steel-blue; rump and under parts dark silky green; scapulars and wing-coverts bottle-green tinged with bronzy purple; neck and rump ornamented with narrow white filamentous feathers; flanks with a white patch. After the breeding season the white filamentous feathers and the crests on the head and nape are cast; gular sac and naked lores dull brownish red. Culmen 1·85, wing 9·5, tail 6·3, tarsus 2·1 inch. Female similar but rather smaller. The young bird differs from *P. bicristatus* in having the back and scapulars glossed with dull green and not with purple.

Hab. Coasts of Kamchatka, Eastern Siberia south to Southern China; Japan; west coast of North America from Alaska to Western Mexico.

In habits and nidification this bird does not differ from *P. carbo*.

Mr. Ridgway divides this Cormorant into three subspecies, viz.: *P. pelagicus* from the coast of Kamchatka and the Aleutian Islands; south in winter to the Kuriles and northern Japan; *P. pelagicus robustus*, Ridgw., from the coast of Alaska, from Norton's Sound, south to Washington Territory; and *P. pelagicus resplendens* (Aud.) from the Pacific coast, from Washington Territory to Western Mexico (Mazatlan and Cape St. Lucas).

781. Shag.

PHALACROCORAX GRACULUS.

Phalacrocorax graculus (Linn.), Syst. Nat. i. p. 217 (1766); (Naum.), xi. p. 88, Taf. 280; Gould, B. of Gt. Brit. v. pl. 53; Dresser, vi. p. 163, pl. 389; Grant, Cat. B. Br. Mus. xxvi. p. 364; Saunders, p. 363; Lilford, vii. p. 5, pl. 2; *P. cristatus* (Müller), Zool. Dan. Prodr. p. 18, No. 150 (1776); Hewitson, ii. p. 473, pl. cxxx. fig. 2; Gould, B. of E. v. pls. 410, 411; *P. desmaresti* (Payraudeau), Ann. Sc. Nat. 1826, p. 460; Grant, op. cit. xxvi. p. 368.

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Cormoran-largup, French; *Corvo marinho da crista*, Portug.; *Marangone col ciuffo*, Ital.; *Krähenscharbe*, German; *Gekuifde Aalscholver*, Dutch; *Topskarv*, Dan.; *Krâkskarf*, Norweg.; *Toppskarf*, Swed.

♂ *ad.* (Scotland). General colour silky blackish green, the head and neck greener; back, scapulars, and wing-coverts paler and margined with velvety black; on the back of the crown a broad recurved crest; bill black, the nail yellowish brown, the basal portion and the bare portion of the chin yellowish marked with black; angle of mouth orange; bare space round the eye and legs black; a yellowish spot at the base of the bill; iris rich green. Gape 3·6, wing 9·9, tail 5·7, tarsus 2·4 inch. Female similar but smaller. After the breeding season the crest is cast. The young bird is brown with a greenish tinge above, and has the chin, throat, and middle of the abdomen white or whitish, the rest of the under parts brownish ash; bill dusky brown above, brownish flesh below; bare skin at the base of bill and round the eye dusky yellow; legs dusky brown. In this and all other members of the genus the nestling is blackish, covered with blackish down.

Hab. The coasts of Europe up into the Arctic Circle, but not far up the Baltic, or on the coasts of Finland; Iceland; the Færoes; Mediterranean, Black and Caspian Seas.

In habits it resembles the Cormorant but it frequents the sea-coasts and is but seldom to be met with on fresh water. It is gregarious in its habits and breeds in societies, placing its nest, which is a large structure of seaweed, &c., on a rock or a rocky ledge in a cave, and in June or July deposits 3 or 4, sometimes even more, bluish white eggs covered with a chalky coating, elongated in shape and rather smaller than those of *P. carbo*. By some authors the Mediterranean Shag (*P. desmaresti*) has been subspecifically separated, the young bird having the under parts whiter or nearly white, but I cannot endorse this view.

782. African Cormorant.

PHALACROCORAX AFRICANUS.

Phalacrocorax africanus (Gmel.), Syst. Nat. i. p. 577 (1788); Dresser, vi. p. 169. pl. 390; Grant, Cat. B. Br. Mus. xxvi. p. 407.

♂ *ad.* (Egypt). General colour glossy black with bottle-green reflections; forehead intermixed with white and furnished with a short crest; sides of back, scapulars, and wing-coverts grey and blackish grey broadly tipped with black; quills and tail black washed with grey; bill yellow, the ridge of the mandible brown; bare skin of the face bluish; iris carmine-red; legs black. Culmen 1·3,½ wing 7·5, tail 6·0, tarsus 1·5 inch. After the breeding season the head and neck are brown, the greyish

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feathers on the upper parts are margined with brownish white; chin and throat, breast and abdomen white; base of neck and chest brownish white.

Hab. Africa, from the Delta of the Nile to the Cape of Good Hope; Madagascar.

In habits it resembles *P. pygmæus*. It frequents inland waters—rivers, lakes, morasses, and even ponds, and is not to be met with on the sea-coasts. Its flight is strong and rapid, and it is an expert diver, feeding almost exclusively on fish, but frogs and even grasshoppers have been found in its stomach. Its nest is a scanty structure of sticks, which is placed on a bush, and it deposits 3 to 4 eggs which are bluish white covered with a layer of chalky substance and which measure about 1·80 by 1·22.

783. Pygmy Cormorant.

PHALACROCORAX PYGMÆUS.

Phalacrocorax pygmæus (Pall.), Reise, ii. p. 712, Anhang (1773); (Naum.), xi. p. 112, Taf. 281; Gould, B. of E. v. pl. 409; Dresser, vi. p. 173, pl. 391; Grant, Cat. B. Br. Mus. xxvi. p. 405.

Cormoran pygmée, French; *Marangone minore*, Ital.; *Zwergscharbe*, German.

♂ *ad.* (Danube). Crown, nape, hind neck, and sides of same glossy reddish brown, the forehead darker and tinged with greenish black; middle of back, scapulars, wing-coverts, and inner secondaries blackish grey, margined with glossy black; wings and tail black; rest of plumage greenish black with white spots composed of bare shafted feathers with a terminal white tuft; bill, naked skin round the eyes and on the throat, and legs black; iris sea-green. Culmen 1·35, wing 8·0, tail 6·5, tarsus 1·3 inch. Female rather smaller and duller in colour. After the breeding season the throat is white, the brown on the neck extends to the breast, and the white spots are absent. The young bird has the chin white, the throat and breast brown, the rest of the under parts dull white intermixed with brown, the lower flanks and under tail-coverts black, the bill yellowish; legs black and iris brown.

Hab. Southern and south-eastern Europe, rare as far north as Poland; north Africa; western and central Asia as far east as Afghanistan.

In habits it resembles its congeners; it frequents inland lakes, rivers, and marshes in preference to the sea-coasts, is an expert diver and feeds on fish which it captures under water. It is gregarious and breeds in colonies, placing its scanty nest of sticks on bushes in swamps, and late in May it lays 3 to 5, seldom 6, eggs, which resemble those of *P. graculus* but are

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smoother in surface of shell and smaller, measuring about 1·75 by 1·20.

In India and Burma, south to Java and Borneo this species is replaced by *P. javanicus* (Horsf.), which differs in having the chin and neck black and not brown.

SULA, Brisson, 1760.

784. Gannet.

SULA BASSANA.

Sula bassana (Linn.), Syst. Nat. i. p. 217 (1766); (Naum.), xi. p. 14, Taf. 278; Hewitson, ii. p. 474, pl. cxxx. fig. 3; Gould, B. of E. v. pl. 412; id. B. of Gt. Brit. v. pl. 54; Dresser, vi. p. 181, pl. 392; Grant, Cat. B. Br. Mus. xxvi. p. 425; Ridgway, p. 76; Saunders, p. 365; Lilford, vii. p. 9, pl. 3.

Fou de Bassan, French; *Ganso-patola*, Portug.; *Alcatráz*, Span.; *Basstölpel*, German; *Ian van Gent*, Dutch; *Kuksuk*, Greenl.; *Hav-sule*, Icel., Dan., and Norweg.; *Hafsula*, Swed.

♂ *ad.* (Bass Rock). Entire plumage pure white, the head and neck tinged with warm isabelline; quills and tail black, the latter cuneate; bill pale livid blue; space round the eye blackish; iris yellow; legs greenish; webs brown. Culmen 4·8, wing 18·8, tail 8·3, tarsus 2·7 inch. The immature bird has the upper parts dark sooty brown closely spotted with white, the under parts whitish closely marked with sooty brown; wings and tail blackish brown; bill dark horn-brown. The nestling is at first naked and blackish, then covered with dark down.

Hab. Atlantic coasts of Greenland, Iceland, Great Britain, and Scandinavia, in winter south to North-west Africa; on the American coasts from the high north to the Gulf of Mexico.

Is wholly marine, not to say oceanic, in habits, only visiting certain islands for the purpose of breeding. In British waters there are Lundy in the British Channel, Grasholm on the south-west coast of Wales, the Bell Rock and Skelligs on south-west coast of Ireland, Ailsa in the Firth of Clyde, St. Kilda, North Barra on Sulisgeir, and the Stack on the north coast of Scotland, and the Bass Rock in the Firth of Forth. There is no station on the coasts of Norway, Orkney, or Shetland, and in the Færoes only on Myggenœs, on the Iceland coast the Westman Islands, Eldey and Grimsey. Formerly abundant in Newfoundland waters it has now but three stations there, of which the Great Bird Rock is chief. Notwithstanding its great power of flight, it is occasionally driven inland by storms. It feeds wholly on fish, which it takes by plunging with closed wings from a height, and never by diving from the surface as do the Cormorants. At

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its breeding stations the nests are usually placed so thickly as to cover all the available space. They are built of sea-weed, and but a single egg is laid, which is elliptical in shape, the surface dull and rough, and white in colour, usually marked with yellowish brown dirt, and measures about 3·12 by 2·2. The cry of the old bird is a hoarse *kurra, kurra,* or *grog, grog,* rapidly repeated, and that of the young bird a shrill squeak.

Sula piscator (Linn.) has, according to Dr. Finsch, been once obtained in Decastries Bay in Eastern Siberia.

PELECANUS, Linn., 1766.

785. Roseate Pelican.

PELECANUS ONOCROTALUS.

Pelecanus onocrotalus, Linn. Syst. Nat. i. p. 215 (1766); Naum. xi. p. 150, Taf. 282; Gould, B. of E. v. pl. 405; Dresser, vi. p. 193, pl. 393; Grant, Cat. B. Br. Mus. xxvi. p. 462; Blanf. F. Brit. Ind. Birds, iv. p. 334.

Pélican blanc, French; *Pelicano*, Portug. and Span.; *Pellicano* Ital.; *Pelikan, Kropfgans*, German; *Abu-djemel*, Arab.; *Rosovaya Baba*, Russ.; *Murgi-sæfit*, Pers.; *Berkasan*, Tartar.

♀ *ad.* (S.E. Europe). General colour white tinged with rose; occipital feathers elongated and pointed, forming a crest, and an elongated tuft on the lower neck, tinged with isabelline; primaries black; bill blue-grey with a pink line marked with red down the side; space round the eye, forehead, and sides of the frontal lump yellowish; feet and legs pink; iris rich red. Culmen 16·0, wing 28·6, tail 8·2, tarsus 5·4 inch. The male is similar but has little or no crest. The young bird has the upper parts dull creamy buff varied with greyish brown; rump dirty white; tail dull greyish; wings brown with greyish margins; under parts dirty white.

Hab. Southern and south-eastern Europe, rarely straying into central Europe; of doubtful occurrence in Denmark, and a rare straggler to Sweden and Finland; north Africa; Asia Minor and Asia east to northern India.

Frequents inland waters and large marshes where it breeds. It swims with ease, and its flight is easy. It feeds on fish which it captures by dipping its head and taking the fish in its pouch. and they often combine and drive the fish in a small bay. Its note is a deep loud cry. This bird breeds in societies in large marshes, constructing a nest of reeds, and in April or May, 2 or 3, rarely 4, eggs are laid, which are white, the surface chalky and rough and generally marked with blood. In size they measure about 3·5 by 2·32.

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786. Subsp. Pelecanus Roseus.

Pelecanus roseus, Gmel. Syst. Nat. i. p. 570 (1788); Grant, Cat. B. Br. Mus. xxvi. p. 466; Blanf. F. Brit. Ind. Birds, iv. p. 333; *P. javanicus*, Horsf. Trans. Linn. Soc. xiii. p. 197 (1822); *P. minor*, Rüpp. Mus. Senck. ii. p. 185 (1837).

Malaya Baba, Russ.

Ad. (India). Differs from *P. onocrotalus* in being smaller, in having a shorter bill, the forehead in being devoid of any swelling, and in having the tail composed of 22 feathers instead of 24 as in *P. onocrotalus*. Culmen 12·0, wing 24·0, tail 7·0, tarsus 4·5 inch.

Hab. Eastern Asia, and the Malay Archipelago, India; westward to south-eastern Europe and Africa.

This is a very doubtful subspecies, and in India, where both *P. roseus* and *P. onocrotalus* occur, intermediate examples are, according to Mr. Blanford, frequently to be met with.

787. Dalmatian Pelican.

PELECANUS CRISPUS.

Pelecanus crispus, Bruch. Isis, 1832, p. 1109; Naum. xi. p. 180, Taf. 283; Gould, B. of E. v. pl. 405; Dresser, vi. p. 199, pl. 394; Grant, Cat. B. Br. Mus. xxvi. p. 468; Blanf. F. Brit. Ind. Birds, iv. p. 335.

Pélican crépu, French; *Krausköpfiger Pelikan*, German; *Kudravaya Baba*, Russ.; *Lambér*, Pers.; *Kután*, Tartar.

Ad. (Cyprus). General colour silvery white with a greyish tinge; nuchal feathers elongated, soft, and curly; most of the feathers on the upper parts with black shafts; quills blackish brown, the inner secondaries margined with whitish; tail greyish white; feathers on lower throat and breast elongated; a patch on the lower throat yellowish; bill blue-grey marked laterally with red, pouch yellow; bare space round the eye flesh-coloured; iris greyish; legs lead-grey. Culmen 16·5, wing 28·0, tail 9·1, tarsus 4·5 inch. The female is similar but rather smaller. Young birds resemble those of *P. onocrotalus* in being brownish grey, but differ in having the feathers at the base of the bill coming to an even line across the forehead and not to a point; head crestless; pouch greyish.

Hab. Southern but chiefly south-eastern Europe; north Africa, rare in the west; Asia east to south-east, Mongolia, and China, visiting north-west India in winter.[1]

In habits and nidification it does not differ from *P. onocrotalus*, and its eggs are similar to those of that species.

[1] Formerly inhabiting, and (as shown by remains of the young) breeding in England. Bones have been found in the peat of the Fens of the Bedford Level, and in considerable numbers at Glastonbury in Somerset.

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ARDEA, Linn., 1766.

788. Grey Heron.

ARDEA CINEREA.

Ardea cinerea, Linn. Syst. Nat. i. p. 236 (1766); Naum. ix. p. 24, Taf. 220; Hewitson, ii. p. 269, pl. lxxiv. fig. 1; Gould, B. of E. iv. pl. 273; id. B. of Gt. Brit. iv. pl. 20; Dresser, vi. p. 207, pl. 395; Sharpe, Cat. B. Br. Mus. xxvi. p. 74; Tacz. F. O. Sib. O. p. 980; Blanford, F. Brit. Ind. Birds, iv. p. 382; Saunders, p. 367; Lilford, vii. p. 12, pl. 4.

Héron huppé, French; *Garça real*, Portug.; *Garza*, Span.; *Airone cenerino*, Ital.; *Grauer-Reiher*, German; *Blaauwe-Reiger*, Dutch; *Fiske-Hejre*, Dan.; *Hegre*, Norweg.; *Grå Häger*, Swed.; *Harmaa-haikara*, Finn.; *Tschepura, Seraja-Zapla*, Russ.; *Kuuk-Kaja*, Tartar; *Bou-auk*, Arab.; *Aishoush*, Moor.; *Nari, Anjan*, Hindu.; *Awo-sagi*, Jap.

♂ *ad.* (England). Crown white; sides of and hind-neck glossy black; nuchal feathers much elongated; upper throat white; neck ash-grey with a faint vinous tinge and marked with two or three lines of blue-black feathers; on the lower neck a bunch of elongated, pointed white feathers tinged with ash at the base; upper parts and tail ashy blue, the scapulars much elongated; middle of breast and under tail-coverts white; sides of breast and a broad stripe on the sides of the abdomen black; flanks ashy grey; primaries black; bill, bare space round the eye, and iris yellow; legs dark greenish grey; bare part of tibia and soles yellowish. Culmen 4·8, wing 17·7, tail 7·5, tarsus 5·5 inch. Female smaller with the elongated feathers shorter. The young bird has the elongated feathers much shorter or wanting, the bunch of long feathers on the breast absent, and the under parts grey. The young in down is covered with long, soft down, grey above and white below; bill reddish white; iris white; legs reddish grey.

Hab. Europe generally, north to central Scandinavia, British Islands; Africa and Madagascar; Asia, east to Japan, south to the Malay islands and Australia; has strayed as far north as Iceland and Greenland.

Frequents streams, lakes, and ponds, where it can obtain its prey, which consists of fish, but it also captures water-rats, mice, and aquatic insects. In its general habits it is shy and wary. Its note is a deep harsh cry resembling the word *kronk*. It breeds rather early in the season, nesting in societies or heronries, occasionally on the ground, but more frequently on trees or cliffs, constructing a somewhat bulky nest of sticks, lined with

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twigs, grass, wool, hair, etc. The eggs are laid early in March, are pale blue with a few small white chalky marks here and there, and measure about 2·50 by 1·68.

789. Purple Heron.

ARDEA PURPUREA.

Ardea purpurea, Linn. Syst. Nat. i. p. 236 (1766); Naum. ix. p. 63, Taf. 221; Hewitson, ii. p. 271, pl. lxxiv. fig. 2; Gould, B. of E. iv. pl. 274; id. B. of Gt. Brit. iv. pl. 21; Dresser, vi. p. 217, pl. 396; (Sharpe), Cat. B. Br. Mus. xxvi. p. 60; Saunders, p. 369; Lilford, vii. p. 13, pl. 5.

Héron pourpré, French; *Garça*, Portug.; *Garza moruna*, Span.; *Airone rosso*, Ital.; *Purpur-Reiher*, German; *Roode-Reiger*, Dutch; *Purpurhejre*, Dan. and Norw.; *Purpurhäger*, Swed.; *Tschepura*, Russ.; *Kermesiwach*, Tartar; *Siad el mraj*, Moor.

♂ *ad.* (Spain). Differs from *A. cinerea* in having the crown black, the neck rusty reddish instead of ashy grey, the elongated scapular plumes intermixed with rusty red; quills and tail deep ashy plumbeous; elongated plumes on the lower neck striped with black; breast rich maroon red marked with black in the middle; flanks ashy grey; under tail-coverts black and white; soft parts as in *A. cinerea*. The female is duller and smaller. In winter the long plumes are absent. The young bird lacks the long plumes, has the crown rusty reddish, the upper parts greyish brown with broad yellowish rusty margins, and the under parts dull ochreous white, the flanks brownish ashy.

Hab. Europe, rarer in the north; of occasional occurrence in Southern Scandinavia and Great Britain; Madeira, the Canaries, and Cape de Verde Islands; Africa and Madagascar; Asia east to the Persian Gulf, being replaced further east by *A. manillensis*, Meyen, a closely allied form differing in lacking the black streaks on the fore-neck.

In habits it resembles the Bittern more than *A. cinerea*, in not frequenting open waters, but skulking among the dense aquatic herbage. It feeds chiefly on fish, but also on frogs, mice, and aquatic insects. Its call is not so loud or harsh as that of *A. cinerea*. Like that species it nests in societies, not on trees, but its nest, which is a mere platform of dry rushes or sticks, is placed among the aquatic herbage or on a bush. Its eggs, 3 or 4 in number, are deposited in April or early in May, and resemble those of *A. cinerea* but are smaller, measuring about 2·18 by 1·61.

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790. Black-necked Heron.

ARDEA MELANOCEPHALA.

Ardea melanocephala, Vig. and Childr. in Denh. and Clapp. Voy. ii. App. p. 201 (1826); Dresser, vi. p. 225, pl. 397; Sharpe, Cat. B. Br. Mus. xxvi. p. 70; *A. atricollis*, Wagl. Syst. Av. *Ardea*, sp. 4 (1827).

Abu el Anga, Arabic.

♂ *ad.* (Africa). Differs from *A. cinerea* in having the head, pendant nuchal plumes and back of neck greyish black, the upper parts blackish plumbeous with a faint greenish lustre, the lower back, rump, and upper tail-coverts slaty blue, the elongated scapular plumes hoary towards the tips; quills and tail blackish lead grey; chin and throat white, neck blackish grey slightly marked with white; under parts clear grey; upper mandible black, the under mandible and bare skin round the eye greenish yellow; legs and feet black; iris light yellow. Culmen 3·0, wing 15·8, tail 6·2, tarsus 4·4 inch. Female smaller with the elongated plumes shorter. The young bird is duller and brownish grey; head black; hind-neck slaty grey; under parts yellowish white, the lower neck and breast greyish washed with fawn; throat striped with yellowish.

Hab. Africa south to the Cape Colony; Madagascar; a rare visitant to Algeria, Spain, and the south of France.

In habits it is said to resemble *A. cinerea*, and like that species it feeds on fish, but also on frogs, lizards, and locusts. It nests both on trees and on reed-beds in company with other Herons and those of the same species, and in June or July deposits 3 to 4 eggs, which resemble those of *A. cinerea* in colour, and measure about 2·32 by 1·72.

791. Great White Egret.

ARDEA ALBA.

Ardea alba, Linn. Syst. Nat. i. p. 239 (1766); Gould, B. of E. iv. pl. 276; id. B. of Gt. Brit. iv. pl. xxii.; Dresser, vi. p. 231, pl. 398; (Sharpe), Cat. B. Br. Mus. xxvi. p. 90; (Blanf.), F. Brit. Ind. Birds, iv. p. 385; Saunders, p. 371; Lilford, vii. p. 15, pl. 6; *A. egretta*, Bechst. Gemeinn. Naturg. Deutschl. iii. p. 41 (1793 nec. Gmel.); Naum. ix. p. 85, Taf. 222.

Héron aigrette, French; *Airone bianco maggiore*, Ital.; *Silber-Reiher*, German; *Groote Zilverreiger*, Dutch; *Hvit-Häger*, Swed.;

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Belaya Tschepura, Russ.; *Akwach*, Tartar; *Gheti*, *Wag el abiad*, Arab.; *Mallang-bagla*, Hindu.

♂ *ad.* (Volga). Entire plumage pure white; feathers on the hind-crown and lower neck elongated and pointed; a large bunch of filiform hair-like plumes extends from the lower back beyond the tail; bill black; bare space round the eye greenish yellow; legs dark brown, the bare tibia paler; iris yellow. Culmen 5·6, wing 16·3, tail 6·6, tarsus 7·2 inch. Female similar but rather smaller. After the breeding season the elongate dorsal plumes are cast, and in the winter the bill is yellow. The young bird resembles the adult in winter but has the plumage laxer, the legs paler and tinged with yellow, and the bill much paler yellow.

Hab. Southern and south-eastern Europe, rarely straying as far north as Great Britain and Sweden; Africa as far south as Natal; Asia east to Burma, the Indian peninsula, and Ceylon.

In general habits this species resembles *A. cinerea*, and like that bird frequents rivers, streams, lakes, and large morasses, feeding on fish, frogs, aquatic insects, &c. It is companionable not only to others of its own species, but to allied species. Its call-note is a harsh deep *rah*, and that of the nestling *kekkekkek* like that of *A. cinerea*. It nests in societies, usually placing its nest on a tree, but sometimes amongst the dense reed-thickets. The nest is constructed of dry twigs, reeds, and flags, lined with finer leaves of aquatic plants, and the eggs, usually 4, but occasionally 5, in number, are deposited late in March or early in April, and are blue like those of *A. cinerea*, but smaller, measuring about 2·44 by 1·65.

792. Smaller White Egret.

ARDEA INTERMEDIA.

Ardea intermedia, Wagler, Isis, 1829, p. 659; Dresser, vi. p. 238; (Sharpe), Cat. B. Br. Mus. xxvi. p.85; (Blanf.), F. Brit. Ind. Birds, iv. p. 386; Seebohm, B. Jap. Emp. p. 217.

Patanglkha, *Patokha-bagla*, Hindu.; *Chiu-sagi*, Jap.

ad. (Japan). Differs from *H. alba* in being smaller, in having the dorsal summer plumes much longer; bill bright orange, in summer tipped with horn; facial skin green; legs and toes black; iris yellow. Culmen 2·9, wing 12·1, tail 5·2, tarsus 4·5 inch.

Hab. The Indian peninsula and Ceylon; Northern Burma; China, Japan, south to the Malay Peninsula and Islands, Java and the Philippines.

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Is very closely allied to *H. alba*, from which it does not differ in general habits. In India it breeds in July and August, in colonies, placing its nest on trees, not unfrequently in towns. The eggs, 4 in number, resemble those of *H. alba* and measure about 1·9 by 1·44.

793. Japanese Egret.

ARDEA TIMORIENSIS.

"*Ardea timoriensis*, Cuv." Lesson, Traité, p. 575 (1831); (Sharpe), Cat. B. Br. Mus. xxvi. p. 98; *H. syrmatophorus*, Gould, B. of Austral. vi. pl. 56 (1848); (Buller), B. N. Zeal. p. 226; *H. modesta*, Blakiston and Pryer, B. of Jap. in Trans. As. Soc. Jap. xi. part 1, p. 118 (nec. Gray); Tacz. F. O. Sib. O. p. 979; *H. alba*, David and Oust. Ois. Chine, p. 439 (nec. Linn.); (Seebohm), B. Jap. Emp. p. 216; (Tacz.), F. O. Sib. O. p. 977.

Paé-hao, *Paé-lou-sse*, Chin.; *O-sagi*, Jap.; *Kotuku*, New Zeal.

ad. (Japan). Differs from *H. alba* in having the dorsal plumes shorter, the bill orange-yellow both in summer and winter; naked space round the eye greenish yellow; legs above the knee pale dull yellow, this colour continued down the middle inner part of the tarsus; tarsi and feet otherwise black; iris yellow. Culmen 5·0, wing 16·4, tail 6·5, tarsus 6·2 inch.

Hab. Japan and China, south through the Malay archipelago to Australia and New Zealand.

In habits it does not differ from *H. alba*, and like that bird nests in colonies, placing its nest on trees, usually at a considerable height, and deposits 3 to 4 eggs, which are similar to those of *H. alba* in colour and measure about 2·2 by 1·6.

794. Little Egret.

ARDEA GARZETTA.

Ardea garzetta, Linn. i. p. 237, 1766; (Naum.), ix. p. 101, Taf. 223; Gould, B. of E. iv. pl. 277; id. B. of Gt. Brit. iv. pl. 23; Dresser, vi. p. 239, pl. 399; (David and Oust.), Ois. Chine, p. 440; (Sharpe), Cat. B. Br. Mus. xxvi. p. 118; (Blanf.), F. Brit. Ind. Birds, iii. p. 387; Saunders, p. 373; Lilford, vii. p. 19, pl. 7; Seebohm, B. Jap. Emp. p. 218.

Héron garzette, French; *Garza blanca*, Span.; *Garzetta*, Ital.; *Kleiner Silberreiher*, German; *Kleine Zilverreiger*, Dutch; *Tschepuranushda*, Russ.; *Beiadi*, Arab.; *Bou-fala*, *Bou-bliga*,

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Moor.; *Kilchia*, *Karchia-bagla*, Hindu.; *Siao-paé-hao*, Chin.; *Shira-sagi*, Jap.

♂ *ad.* (Spain). Entire plumage pure white; two long, narrow feathers form a plume from the nape; a large bunch of elongated recurved hair-like plumes extend from the lower back beyond the tail, and a bunch of elongated feathers slightly tinged with isabelline on the lower throat; bill black, but yellowish grey at the base of the lower mandible, bare space about the eye lead-blue; iris pale yellow; legs and feet black, soles yellow. Culmen 3·5, wing 11·0, tail 4·5, tarsus 4·4 inch. Female similar but somewhat smaller. In the winter the occipital and dorsal plumes are absent.

Hab. Southern Europe, straying rarely to northern continental Europe and Great Britain; Azores, Canaries, and Cape Verde Islands; Africa south to the Cape; Asia east to Japan, north to northern China, south to Ceylon, the Malay peninsula and the Philippines. *H. nigripes* from Java to Australia is scarcely separable from the present species, differing only in having no yellow on the feet.

In habits it does not differ from its allies and like them is very gregarious, frequenting large marshes, and feeding on fish, frogs, aquatic insects, worms, &c. It breeds in colonies, constructing its nest of dry twigs and reed-stems lined with finer leaves of aquatic plants, grass, and roots, and placing it on low trees, rush-beds, or on the ground, and late in May or early in June, usually 4 but occasionally 5 or 6 eggs are deposited, which are uniform pale greenish blue and measure about 1·76 by 1·26.

On the American continent the present species is replaced by *A. candidissima*, Gm. *Demiegretta sacra*, which inhabits the islands in the Bay of Bengal south to Australia and New Zealand and most of the Islands in the Pacific, is said to have strayed north to the islands in the Bay of Corea, but I cannot include it as a Palæarctic species.

795. Buff-backed Heron.

ARDEA IBIS.

Ardea ibis, Linn., Hasselq. Iter. p. 248 (1757); id. in Hasselq. Voy. etc. p. 198 (1766); *A. lucida*? (Rafin.); Caratteri, p. 5 (1810); (Sharpe), Cat. B. Br. Mus. xxvi. p. 213; *A. bubulcus*, Audouin, Expl. Somm. Pl. Ois. de l'Égypte, i. p. 298 (1825); Dresser, vi. p. 245, pl. 400, fig. 1; Saunders, p. 375; Lilford, vii. p. 23, pl. 8; *A. russata* (Wagler), Syst. Av. Ardea, p. 178, sp. 12 (1827, pt.); Gould, B. of E. iv. pl. 278; id. B. of Gt. Brit. iv. pl. 24.

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Héron garde-bœuf, French; *Garciote*, Portug.; *Garrapatosa*, *Purga-bueyes*, Span.; *Airone guarda-buoi*, Ital.; *Zapla*, Russ.; *Abu-Gerdan*, Arab.; *Tair el bukkar*, Moor.

♂ *ad.* (Spain). Feathers on the head and nape elongated, hair-like, rich vinous buff; forepart of the back pale buffy yellow; a large bunch of hair-like rich vinous buff feathers extends from the back beyond the tail, and a similar shorter bunch covers the lower throat; rest of the plumage pure white; beak, legs, and iris yellow; bare space in front of the eye greenish yellow. Culmen 2·2, wing 9·7, tail 3·9, tarsus 3·2 inch. The female is rather smaller and has the ornamental plumes less developed. In winter these plumes are absent and the plumage is entirely white. The young bird resembles the adult in winter, but has the crown dull rufescent ochreous, and the back tinged with pale buff.

Hab. Southern Europe; has strayed at least once to Great Britain; Madeira and the Canaries; the whole of Africa and Madagascar; Asia east to Central Asia, east of which it is replaced by *A. coromandas*.

In habits it differs considerably from the true Egrets, as it affects the company of domestic cattle and evinces no fear of man. Nor does it feed on fish, but on various kinds of insects, especially grasshoppers and the insect parasites of cattle. Its call-note is said to resemble the bleat of a sheep, but is hollower and deeper in tone. It breeds in colonies in trees, building a somewhat large, flat nest of dry sticks and twigs, and in May deposits 2 to 4 eggs, which are uniform pale greenish blue in colour and measure about 1·80 by 1·30.

796. Cattle-Egret.

ARDEA COROMANDA.

Ardea coromanda (Bodd.), Tabl. Pl. Enl. p. 54 (1783); (Sharpe), Cat. B. Br. Mus. xxvi. p. 217; Seebohm, B. Jap. Emp. p. 219; Tacz. F. O. Sib. O. p. 985; (Blanf.), F. Brit. Ind. Birds, iv. p. 389.

Surkhia-bagla, Hindu.; *Ama-sagi*, Jap.

ad. (India). Differs from *A. ibis* in breeding-dress, in having the head, neck, throat, and pectoral plumes bright orange, the dorsal plumes vinous sienna tinged with golden yellow, and shorter than in *A. ibis*, scarcely extending beyond the tail. Culmen 2·2, wing 10·0, tail 3·75, tarsus 3·5 inch.

Hab. India, Ceylon, and Burma; Cochin China and China; the Ussuri country; Japan; Corea; south to the Philippines and Moluccas; is said to have occurred in Italy.

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Differs but little from *A. ibis*, of which it is merely the eastern form; and in habits and nidification it does not differ from that species. In India it breeds from June to August, nesting in colonies in trees, and depositing 3 to 5 eggs, resembling those of *A. ibis* and measuring about 1·71 by 1·32.

797. Squacco Heron.

ARDEA RALLOIDES.

Ardea ralloides, Scop., Ann. i. Hist. Nat. p. 88 (1769); Dresser, vi. p. 251, pl. 400, fig. 2; (Sharpe), Cat. B. Br. Mus. xxvi. p. 202; Saunders, p. 377; Lilford, vii. p. 25, pl. 9; *A. comata*, Pall. Reise Russ. Reiche, ii. Anhang, p. 715 (1773); Naum., ix. p. 120, Taf. 224; Gould, B. of E. iv. pl. 275; id., B. of Gt. Brit. iv. pl. 25.

Héron Crabier, French; *Papa-ratos*, Portug.; *Garza cangrejera*, Span.; *Sgarza-ciuffeto*, Ital.; *Rallenreiher*, *Schopfreiher*, German; *Rareiger*, Dutch; *Kosmataya-zapla*, Russ.; *Sabisa*, Arab.; *Aishus*, Moor.

♂ *ad.* (Spain). Crown, nape, sides of the head and elongated nuchal plumes creamy white margined with black; dorsal plumes elongated, filamentous, coppery ochreous on the basal, and creamy buff on the terminal portion; wings, tail, chin, and upper throat white; lower throat and breast creamy yellow, the feathers elongated and filamentous; rest of under parts white; bare space round the eye greenish; bill pale lead at the base, blackish towards the point; iris rich yellow; legs greenish yellow. Culmen 2·62, wing 8·6, tail 3·5, tarsus 2·5 inch. The female has the nuchal plumes shorter, and is somewhat smaller. In the winter the nuchal and dorsal plumes are much less developed. The young bird has the nuchal feathers shorter and yellower, the dorsal feathers darker and coppery brown, the wings marked with yellowish buff, the lower throat striped with blackish, the bill greenish yellow, brown along the ridge; iris whitish yellow; legs yellowish green.

Hab. Southern Europe, east to the Caspian, straying rarely to central and northern continental Europe and Great Britain; Africa south to the Transvaal.

In its habits it somewhat reminds one of the Bitterns. It affects damp swampy localities, but is said to be met with in localities frequented by herds of domestic swine. Its note is a harsh *charr* but not loud, and as a rule it is a somewhat silent bird. It feeds on fish, frogs, aquatic insects, worms, and small shell-fish. It breeds in marshy places, nesting on the ground amongst the aquatic herbage or on bushes,

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and in May or June deposits 4 or 5 eggs, in colour greenish blue like those of *A. purpurea*, but measuring only about 1·55 by 1·19.

798. Pond-Heron.

ARDEA GRAYI.

Ardea grayi, Sykes, P.Z.S. 1832, p. 158; Barnes, Stray Feathers, ix. p. 460; (Sharpe), Cat. B. Br. Mus. xxvi. p. 207; (Blanf.), F. Brit. Ind. Birds, iv. p. 393; *A. leucoptera*, Gray, List. Grall. Brit. Mus. p. 82 (1844).

Bagla, *Andha-bagla*, Hindu.; *Kana-koka*, Cingal.

ad. (India). Head and neck light yellowish brown, the crown browner, the occipital crest white, the dorsal plumes deep maroon tipped with blackish slate, the tips of the first primaries brownish, and the pectoral plumes ashy brown streaked with white; bill blue at the base, yellowish in the middle and edges, black at the tip; bare orbital skin greenish yellow; legs and feet dull green; iris bright yellow. Culmen 2·6, wing 8·5, tail 3·1, tarsus 2·2 inch.

Hab. India, Ceylon, and Burma, north to Afghanistan, west to the Persian Gulf, south-east to the Malay Peninsula; the Andaman, Nicobar, and Laccadive Islands.

Frequents paddy fields, ditches, banks and similar damp localities, and is a common and familiar bird in India. It feeds on frogs, crabs, fish, insects, &c., and nests in colonies, constructing a nest of sticks on a tree, and from May to September deposits 4 to 6 greenish blue eggs, which measure about 1·48 by 1·17.

799. Chinese Pond-Heron.

ARDEA BACCHUS.

Ardea bacchus, Bp. Consp. Gen. Av. ii. p. 127 (1855); (Sharpe), Cat. B. Br. Mus. xxvi. p. 211; (Blanf.), F. Brit. Ind. Birds, iv. p. 394; *A. prasinoscelis*, Swinh. Ibis, 1860, p. 64; David and Oust. Ois. Chine, p. 443; Seebohm, B. Jap. Emp. p. 225; *A. leucoptera*, (pt.) Gray, Gen. of B. iii. p. 566 (1847); Tacz. F. O. Sib. O. p. 984.

♂ *ad.* (China). Crown, sides of head and neck, and long nuchal crest bright chestnut, becoming maroon on the lower portions; chin and upper throat white; back and elongated dorsal plumes rich deep slate; feathers on lower breast elongated; rest of plumage, wings, and tail white; bill

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bluish at base, yellow in the middle, black towards the tip; bare orbital skin greenish yellow; legs pale yellowish green, soles and tibiæ pale yellow; iris golden yellow. Culmen 2·7, wing 8·5, tail 3·0, tarsus 2·2 inch. Female similar but rather smaller. In winter the head and neck are brownish streaked with yellowish buff, the upper breast white streaked with brown; back and scapulars brownish ash, the latter with pale yellowish shaft-stripes.

Hab. Mongolia, up to the Russian frontier; Manchuria; China; Burma; the Malay Peninsula; Borneo; the Andaman Islands; has once been obtained in Japan.

In habits and nidification it is said not to differ from *A. grayi*.

NYCTICORAX, Rafin., 1851.

800. Night-Heron.

NYCTICORAX GRISEUS.

Nycticorax griseus (Linn.), Syst. Nat. i. p. 239 (1766); Dresser, vi. p. 269, pl. 402; Gould, B. of Gt. Brit. iv. pl. 26; Blanf. F. Brit. Ind. Birds, iv. p. 397; Saunders, p. 379; Lilford, vii. p. 32, pl. 11; *N. nycticorax* (Linn.), Syst. Nat. i. p. 235 (1766); (Naum.), ix. p. 139, Taf. 225; (Audubon), B. of Am. pl. 236; Sharpe, Cat. B. Br. Mus. xxvi. p. 146; Ridgway, p. 133; *N. europæus*, Steph. in Shaw's Gen. Zool. xi. p. 609 (1819); Gould, B. of E. iv. p. 279.

Héron bihoreau, French; *Goraz*, Portug.; *Garza gris*, *Garza de noche*, Span.; *Nitticora*, Ital.; *Nachtreiher*, German; *Kwak*, Dutch; *Kwakwa*, Russ.; *Kwak*, *Tar-bagla*, Hindu.; *Ona-dze*, Chinese; *Seguro-goi*, Jap.

♂ *ad.* (Malta). Forehead, a streak over the eye, cheeks, chin, throat, fore part of neck, breast, and abdomen white; crown, nape, back, and scapulars black glossed with bottle-green; several very long, white nuchal feathers; sides of and hind neck, wings, rump, tail, and flanks ashy dove-grey; bill blackish; lores and orbital space yellowish green; legs dull ochreous; iris deep red. Culmen 3·0, wing 11·4, tail 4·7, tarsus 3·05 inch. Female similar. In winter the long nuchal white feathers are wanting. The young bird is brown above, the crown and nape striped, the back and wing-coverts with triangular spots of buffy white; under parts white streaked with brown; quills and tail ashy brown tipped with white.

Hab. Central and southern Europe; straying to the British Islands, Denmark, and south Sweden, but has occurred as far north as the Færoes; Africa generally; Asia as far east generally as Japan, north to Manchuria, south to the Moluccas; America except in the high north; the Sandwich Islands.

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Is chiefly nocturnal in its habits, during the day remaining hidden in some densely foliaged tree, and at the approach of dusk starting off in search of its food, which consists of fish, aquatic insects, worms, and crabs. Its flight is soft and noiseless like that of an owl, and its note is a harsh croak, *kwak*, which is seldom uttered except at night. It is as a rule a breeder on trees, constructing a flat nest of twigs and small branches lined with leaves of aquatic plants, rootlets, &c. Its eggs, 4 to 5 in number, are usually deposited in April or May, and are uniform pale greenish blue, glossless, and measure about 2·5 by 1·41.

GORSACHIUS, Bp., 1855.

801. Japanese Night-Heron.

GORSACHIUS GOISAGI.

Gorsachius goisagi (Temm.), Pl. Col. pl. 582 (1836); Sharpe, Cat. B. Br. Mus. xxvi. p. 169; (Seebohm), B. Jap. Emp. p. 223.

Miso-goi, Jap.

♂ *ad.* (Japan). Upper parts deep foxy chestnut with a vinous coppery tinge on the middle of the crown, nape, hind neck, and of the back; most of the upper parts vermiculated with blackish; quills black tipped with chestnut; outer wing-coverts black tipped with white; tail blackish chestnut; chin and upper throat whitish with central black stripes; rest of under parts rufescent ochreous, vermiculated with blackish, and sparingly striped with black and white; axillaries black and rufous; bill green; culmen blackish; legs and feet green; iris yellow. Culmen 1·5, wing 10·1, tail 3·7, tarsus 2·5 inch. Sexes alike. The young bird has the back browner and more uniform, the wings boldly freckled with rufous buff.

Hab. Japan; Formosa and the Philippines in winter.

In habits it is chiefly nocturnal like the true Night-Herons, and remains hidden in the trees by day, feeding at night on fish, worms, crabs, &c. It frequents the forests, but nothing definite appears to be as yet known respecting its nesting habits. *G. melanolophus*, which inhabits the Malabar coast, Burma, the Philippines, &c., is a closely allied form, differing in having the tips of the quills edged with white and the axillaries black and white; the crown and long nuchal feathers are also slaty black.

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ARDETTA, Gray, 1842.

802. Little Green Heron.

ARDETTA JAVANICA.

Ardetta javanica (Horsf.), Trans. Linn. Soc. xiii. p. 190 (1821); (Sharpe), Cat. B. Br. Mus. xxvi. p. 177; (David and Oust.), Ois. Chine, p. 142; (Blanf.), F. Brit. Ind. Birds, iv. p. 395; (Tacz.), F. O. Sib. O. p. 986; (Seebohm), B. Jap. Emp. p. 224; *B.* var. *amurensis*, Schrenck, Reis. Amurl. i. p. 441 (1860); Sharpe, op. cit. xxvi. p. 181; *B. spodiogaster*; Sharpe, Bull. B.O.C. iii. p. xvii. (1894); id. op. cit. xxvi. p. 182, pl. ii.

Kancha-bagla, Hindu.

♂ *ad.* (India). Crown, nape, and elongated occipital plumes black glossed with green or purplish; a short black stripe from the base of the bill below the eye; rest of neck and elongated dorsal plumes ashy bluish grey; quills and tail slate-blue, the former with narrow white margins; wing-coverts glossy greenish margined with buffy white; chin, throat, and a streak bordering the lower mandible, white; under parts ashy grey, whiter in the middle of abdomen; bill above black, below greenish yellow; facial skin green; iris yellow; legs green, front of tarsus and toes dusky, soles orange. Culmen 2·8, wing 7·4, tail 2·8, tarsus 1·85 inch. Sexes alike. The young has the crown blackish brown with a few whitish stripes, the upper parts brown with buff spots, and the under parts white streaked with brown. In a series from various localities there is a considerable variation in measurements.

Hab. The greater part of the Indo-Malayan area, north to the Amoor; Manchuria; North China and Japan.

In habits it is chiefly nocturnal, though less so than some of its allies, and may sometimes be seen in the daytime in search of food in shady places, but as a rule it remains concealed during the day and seeks its food by night, feeding on fish, frogs, crabs, &c. In India it breeds from May to August, placing a small nest, constructed of sticks, on a tree, and deposits 3 to 5 pale sea-green eggs, which measure about 1·62 by 1·21.

803. Little Bittern.

ARDETTA MINUTA.

Ardetta minuta (Linn.), Syst. Nat. i. p. 240 (1766); (Naum.), ix. p. 194, Taf. 227; (Hewitson), ii. p. 315, pl. lxxxiii. fig. 1; (Gould), B. of E. iv. pl. 282; (id.), B. of Gt. Brit. iv. pl. 29; Dresser, vi. p. 259, pl. 401; Sharpe, Cat. B. Br. Mus. xxvi. p. 222; Blanf. F. Brit. Ind. Birds, iv. p. 400; Saunders, p. 381; Lilford, vii. p. 33, pl. 12.

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Héron blongios, French; *Garcenha*, Portug.; *Garza pequeña*, Span.; *Nonnotto*, *Guacco*, Ital.; *Zwergrohrdommel*, German; *Woudaapje*, Dutch; *Dværgheira*, Dan.; *Dverg-rördrum*, Swed.; *Zapla-woltschok*, Russ.

♂ *ad.* (Malta). Upper parts, including the head and tail, black glossed with greenish; sides of head and neck dull vinous grey; quills purplish black; wing-coverts ochreous, the larger tinged with dove-blue, under parts ochreous; the lower neck-feathers elongated; bill and legs greenish yellow; iris and bare part round the eye yellow. Culmen 2·1, wing 5·83, tail 2·4, tarsus 1·72 inch. The female is rather smaller, has the head brownish black, the sides of head and neck rufous; back and scapulars dark chestnut-brown margined with ochreous; quills dark brown; a patch of chestnut-red on the shoulder; chin white, with a central ochreous stripe; under parts streaked with white. Young birds resemble the female but have the upper parts more varied with buff, and the under parts streaked with deep brown.

Hab. Temperate Europe, straying to Scandinavia and the British Islands, and has however been recorded from the Færoes and Iceland; Madeira and the Azores; northern and central Africa in winter; Asia Minor and temperate Asia as far east as Northern India.

In habits it is shy and secretive and much resembles the Bittern. It frequents dense reed-beds and slips with ease through the densest thickets. Its flight is easy and swift, and the call-note of the male is a somewhat soft *būm*, *būm*, that of the female being *gett*, *gett*, *gett*. It feeds, chiefly by night, on small fish, frogs, and aquatic insects. Its nest is a clumsy structure of aquatic plants and twigs, lined with fine grass or flags, and is placed in the rushes well above the water, or sometimes on a bush. The eggs, 4 to 7 or even 9 in number, are usually deposited in May or June, and are dull white, with a bluish tinge when fresh, and measure about 1·37 by 1·05.

804. Chinese Little Bittern.

ARDETTA SINENSIS.

Ardetta sinensis (Gmel.), Syst. Nat. i. p. 642 (1788); David and Oust. Ois. Chine, p. 448; Sharpe, Cat. B. Br. Mus. xxvi. p. 227; Blanf. F. Brit. Ind. Birds, iv. p. 401; (Seebohm), B. Jap. Emp. p. 27; Tacz. F. O. Sib. O. p. 988.

Jun-bagla, Hindu.; *Kat-bogla*, Beng.; *Yoshigoi*, Jap.

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♂ *ad.* (Burma). Differs from *A. minuta* in having the crown and nape intermixed with grey; the hind-neck rufous; the back, scapulars, and inner secondaries yellowish brown, with a rufous tinge; quills and tail slaty black; bill dark brown above, pinkish brown below; facial skin green; iris yellow; tarsus dull flesh; toes and tibio-tarsal joint pale yellow. Culmen 2·75, wing 5·2, tail 1·9, tarsus 1·8 inch. The female differs from *A. minuta* in having the upper parts pale brownish rufous, the under parts with pale reddish stripes.

Hab. Japan; China; Burma; India and Ceylon; Malayana; New Guinea; North Australia; the Caroline, Marianne, Pelew, and Seychelle Islands.

In habits it does not differ from *A. minuta*. In India it breeds from May to August, and in Japan in June and July, depositing 4 to 6 eggs resembling those of *A. minuta*, and measuring about 1·3 by 0·95.

805. Chestnut Bittern.

ARDETTA CINNAMOMEA.

Ardetta cinnamomea (Gmel.), Syst. Nat. i. p. 643 (1788); Gray and Hardw. Ill. Ind. Zool. i. pl. 66, fig. 1; Blanf. F. Brit. Ind. Birds, iv. p. 402; David and Oust. Ois. Chine, p. 447; Sharpe, Cat. B. Br. Mus. xxvi. p. 236; (Schrenck), Reis. Amurl. Taf. xiv.

Lal-bagla, Hindu.; *Matti-korowaka*, Cingal.

♂ *ad.* (India). Upper parts generally pale chestnut-red, the wing-coverts paler; under parts tawny ochreous; a white stripe on each side of the throat; pectoral plumes elongated, the feathers underneath blackish brown with buff edges; bill dark brown above, yellow below; facial skin reddish purple; legs and feet yellowish green; soles and iris yellow. Culmen 2·1, wing 6·5, tail 1·8, tarsus 1·9 inch. The female has the crown and hind-neck chestnut-brown with a blackish tinge; upper parts chestnut-brown, spotted with buff; under parts ochreous, striped with chocolate brown; facial skin yellow.

Hab. India and Ceylon; Burma; the Amoor, Manchuria and China; south to the Andaman and Nicobar Islands.

In habits it does not differ from *A. minuta*. In India it breeds in June, July, and August, placing its nest, which is a mere pad of grass, on the ground in swampy places, but sometimes on a bush, and depositing 5 or 6 eggs which resemble those of *A. minuta*, and measure about 1·28 by 0·99.

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806. Schrenck's Little Bittern.

ARDETTA EURYTHMA.

Ardetta eurythma, Swinh. Ibis, 1873, p. 74, pl. ii.; David and Oust. Ois. Chine, p. 447, pl. 119; (Seebohm), B. Jap. Emp. p. 227; (Sharpe), Cat. B. Br. Mus. xxvi. p. 242; Tacz. F. O. Sib. O. p. 989; *A. cinnamomea* (nec. Gmel.), (Schrenck), Reis. Amurl. Taf. xiii. fig. 3; (Radde), Reis. im. Süd. Ost. Sib. ii. p. 344.

Yoshi-goi, Jap.

♂ *ad.* (Japan). Crown, hind-neck, back, scapulars, and inner secondaries rich dark chestnut, the crown darker and slightly washed with grey; quills dull slaty grey; wing-coverts buffy ochreous, the edge of the wing and the tail deep chestnut; chin and throat white, tinged with isabelline, and with a dark central line; rest of under parts creamy buff; pectoral feathers elongated, and concealing feathers blackish, margined with ochreous; bill blackish brown above, yellowish brown below; orbital skin purplish flesh, tinged with green; legs grass-green, yellow near the tarso-tibial joint, and on the soles; iris straw colour. Culmen 2·0, wing 5·5, tail 1·65, tarsus 2·1 inch. The female differs in having the head, neck, and upper parts rich chocolate-red, spotted with creamy white, and the under parts isabelline, striped with warm chocolate-red and blackish brown.

Hab. Eastern Siberia (southern Dauria, the lower Amoor, the mouth of the Ussuri river, and the island of Askold) Japan; China to Borneo and Celebes.

In general habits and nidification it does not differ from *A. cinnamomea*, with which it was confused by the earlier Siberian travellers. Its eggs from Dauria are described as being white, almost elliptical in shape, and measure about 1·30 by 1·06.

Ardetta sturmi (Wagl) which inhabits the greater part of Africa is said to have occurred in the Pyrenees, but I find no authentic instance of its occurrence within our limits except that of one individual at Laguna in the Canaries, and consequently do not include it.

BOTAURUS, Briss., 1760.

807. Bittern.

BOTAURUS STELLARIS.

Botaurus stellaris (Linn.), Syst. Nat. i. p. 239; (Naum.), ix. p. 159, Taf. 226; Hewitson, ii. p. 317, p. lxxxiv. figs. 1, 2; Gould, B. of E. iv. pl. 280; id. B. of Gt. Brit. iv. pl. 27; Dresser, vi. p. 281, pl. 403;

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David and Oust. Ois. Chine, p. 446 ; Sharpe, Cat. B. Br. Mus. xxvi. p. 253 ; Tacz. F. O. Sib. O. p. 991 ; Blanf. F. Brit. Ind. Birds, iv. p. 405 ; Saunders, p. 383 ; Lilford, vii. p. 38, pl. 13 ; Seebohm, B. Jap. Emp. p. 226.

Grand Butor, French ; *Gallinhola real*, Portug. ; *Avetoro*, Span. ; *Tarabuso*, Ital. ; *Rohrdommel*, German ; *Roerdomp*, Dutch ; *Rördrum*, Norweg. and Dan. ; *Rördrom*, Swed. ; *Wyp*, Russ. ; *Niv-goung*, *Baz*, Hindu. ; *Sankano-goi*, Jap.

♂ *ad.* (Holland). Crown and nape black, the latter with warm ochreous tips ; upper parts generally warm ochreous buff, irregularly marked and barred with blackish ; quills and tail chestnut-red, the former barred, the latter blotched and marbled with black ; chin buffy white, with a dark brown median and a lateral stripe on each side from the base of the bill ; neck and breast-feathers elongated, the lateral ones yellowish buff, with blackish bars, the middle ones ochreous, with broad central rufous streaks marbled with blackish ; rest of under parts yellowish buff, streaked with blackish brown ; bill and legs greenish yellow, the latter greener ; iris yellow. Culmen 2·8, wing 11·7, tail 4·45, tarsus 3·5 inch. Female similar but rather smaller.

Hab. Europe generally, but rare in the northern portions, formerly breeding in many parts of England, but now only an uncertain visitor ; Northern Africa in winter ; Asia as far east as Japan, north to the Yenesei and Lena, south to Ceylon and southern China.

Frequents large swamps, and reed-beds, and is shy and secretive, and chiefly nocturnal in its habits. Its flight is soft and noiseless but somewhat laboured and seldom prolonged. Its usual call-note is a loud, clear croak, but in the breeding season the male utters the loud booming sound, resembling the deep bellowing of a bull, whence its name in so many languages is derived. It feeds on amphibians, water-insects, worms, crustaceans, and small mammals. Its nest is a mere bed of flags and reeds, placed on the ground or in the reed-beds in some secluded marsh, and the eggs, 3 to 5 in number, usually laid in May, are uniform brownish olive and measure about 2·5 by 1·52.

808. American Bittern.

BOTAURUS LENTIGINOSUS.

Botaurus lentiginosus (Montag.), Orn. Dict. Suppl. and pl. (1813) ; Gould, B. of E. iv. pl. 281 ; id. B. of Gt. Brit. iv. pl. 28 ; Dresser, vi. p. 289, pl. 404 ; Sharpe, Cat. B. Br. Mus. xxvi. p. 259 ; Ridgway, p. 126 ; Saunders, p. 385 ; Lilford, vii. p. 39, pl. 14 ; *B. minor* (Wils.), Amer. Orn. viii. p. 35, pl. lxv. fig. 3 (1814) ; Audub. B Am. pl. 337.

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♂ *ad.* (New Brunswick). Differs from *B. stellaris* in being generally smaller, in having a more slender bill, the crown and nape reddish brown marked with blackish brown, the primaries uniform blackish brown, some slightly tipped with chestnut, and the upper parts are more finely vermiculated. Culmen 3·22, wing 11·5, tail 4·5, tarsus 3·85. Female duller and smaller.

Hab. The whole of temperate and tropical North America, south to Guatemala, Cuba, Jamaica, and Bermudas; a not uncommon straggler to the British Islands, and has not been obtained elsewhere in Europe.

In general habits and nidification it resembles *B. stellaris*, but its note in the breeding season differs from the boom of our bird and resembles the stroke of a mallet on a stake, and its usual note is a rough guttural *quark*, but it is as a rule a silent bird. Its eggs resemble those of *B. stellaris*, but are as a rule smaller.

CICONIA, Briss., 1760.

809. White Stork.

CICONIA ALBA.

Ciconia alba, Bechst. Naturg. Deutschl. iii. p. 48 (1793); Naum. ix. p. 231, Taf. 228; Hewitson, ii. p. 317, pl. lxxxiv. fig. 1; Gould, B. of E. iv. p. 283; id. B. of Gt. Brit. iv. pl. 30; Dresser, vi. p. 297, pl. 405; Sharpe, Cat. B. Br. Mus. xxvi. p. 299; Blanf. F. Brit. Ind. Birds, iv. p. 369; Saunders, p. 387; Lilford, vii. p. 41, pl. 15.

Cigogne, French; *Cegonha*, Portug.; *Cigueña*, Span.; *Cigogna*, Ital.; *Storch*, German; *Stork*, Dan. and Swed.; *Aist*, Russ.; *Leglek*, Tartar; *Badjah*, Arab.; *Lag-lag*, Hindu.

♂ *ad.* (Albania). Plumage pure white, except the quills, scapulars, and larger wing coverts which are glossy black; secondaries washed with grey on the outer web; bare skin round the eye black; chin naked and reddish, but black at the base of bill; beak and legs coral red; iris brown. Culmen 7·0, wing 22·5, tail 9·0, tarsus 8·9. Female similar but rather smaller.

Hab. Temperate and southern Europe, occurring rarely in southern Sweden, Finland, and Great Britain; wintering in Africa as far south as the Transvaal; Central and temperate Asia as far east as northern India.

In most parts where the Stork is found it is protected, being supposed by the peasantry to bring luck to the farm in which it builds. It feeds on frogs, insect-larvæ, rats, mice, snakes, fish,

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&c. I have never heard Storks utter any cry, but during the breeding season they make a great clattering with their bills. They affect the vicinity of man greatly and usually build on a barn or house, making a huge nest of sticks lined with grass or any soft material, but they frequently build on trees. The eggs, 3 to 5 in number, are usually laid late in May, and are pure white, measuring about 3·15 by 2·17.

810. Japanese Stork.

CICONIA BOYCIANA.

Ciconia boyciana, Swinh. P.Z.S. 1873, p. 513; David and Oust. Ois. Chine, p. 450; Seebohm, B. Jap. Emp. p. 228; Sharpe, Cat. B. Br. Mus. xxvi. p. 302; Tacz. F. O. Sib. O. p. 973.

Ko-dzuru, Jap.

♂ *ad.* (Japan). Differs from *C. alba* in being larger, in having the beak black, not red, the eye-lids and bare skin round the eye vermilion red; the iris cream white, with a black exterior circle. Culmen 9·5, wing 26·0, tail 9·7, tarsus 11·0.

Hab. Eastern Siberia, Mongolia, Corea, and Japan; of doubtful occurrence in China.

In habits it does not appear to differ from *C. alba*, but is not so tame, and does not so much affect the vicinity of man. It nests in trees and lays white eggs, which resemble those of that species (*C. alba*), but measure 3·0 by 2·28.

811. Black Stork.

CICONIA NIGRA.

Ciconia nigra (Linn.), Syst. Nat. i. p. 235 (1766); Naum. ix. p. 279, Taf. 229; Hewitson, ii. p. 319, pl. lxxxiv. fig. 2; Gould, B. of E. iv. pl. 284; id. B. of Gt. Brit. iv. pl. 31; Dresser, vi. p. 309, pl. 406; David and Oust. Ois. Chine, p. 450; Sharpe, Cat. B. Br. Mus. xxvi. p. 303; Tacz. F. O. Sib. O. p. 975; Blanf. F. Brit. Ind. Birds, iv. p. 369; Saunders, p. 389; Lilford, vii. p. 45, pl. 16.

Cigogne noir, French; *Cegonha preta*, Portug.; *Cigueña negra*, Span.; *Cigogna nera*, Ital; *Schwarzer Storch*, German; *Sort Stork*, Dan.; *Svart Stork*, Swed.; *Tschernoï Aist*, Russ.; *Balazán*, Arab.; *Surmai*, Hindu.

♂ *ad.* (Brunswick). Head, neck, back, wings, and tail black with metallic gloss; lower breast and under parts white; beak, naked skin round

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the eye and legs orange red ; iris reddish brown. Culmen 7·4, wing 21·1, tail 9·5, tarsus 7·5 inch. Female similar. The young have the upper parts browner and duller, most of the feathers tipped with dull white.

Hab. Temperate and southern Europe, becoming rare in the north up to southern Sweden ; of rare occurrence in Great Britain; Africa, in winter as far south as the Cape Colony; Asia north to the Lena, east to Mongolia and China.

In habits it is less sociable than *C. alba* and does not affect the neighbourhood of man, but frequents marshes in or near forests, generally far from human habitations. It is also far more shy and is not seen in flocks, even during passage, but singly or in pairs. It feeds on frogs, amphibians, reptiles, small mammals, and to some extent on insects. It breeds in forests, making a smaller nest than that of *C. alba*, of sticks lined with grass and moss, or it occasionally utilizes the deserted nest of some other large bird, and it sometimes nests in a cave or on a cliff. The eggs, 3 to 5 in number, are usually deposited late in May or early in June, and are white, resembling those of *C. alba* except that when held up to the light the inside of the blown egg is yellowish green; in size they measure about 2·54 by 1·90.

PLATALEA, Linn., 1766.

812. Spoonbill.

PLATALEA LEUCORODIA.

Platalea leucorodia, Linn. Syst. Nat. i. p. 231 (1766) ; Naum. ix. p. 312 ; Taf. 230 ; Hewitson, ii. p. 320, pl. lxxxv. ; Gould, B. of E. iv. pl. 286 ; id. B. of Gt. Brit. iv. pl. 32 ; (Dresser), vi. p. 319, pl. 407 ; Sharpe, Cat. B. Br. Mus. xxvi. p. 44 ; Blanf. F. Brit. Ind. Birds, iv. p. 366 ; Saunders, p. 393 ; Lilford, vii. p. 51, pl. 18 ; *P. major*, Temm. and Schlegel, Faun. Jap. Aves, p. 119, pl. lxxv. (1850) ; David and Oust. Ois. Chine, p. 451 ; Tacz. F. O. Sib. O. p. 970.

Spatule blanche, French ; *Colhereira*, Portug. ; *Espatula*, *Cuchareta*, Span. ; *Palettuni*, Ital. ; *Löffler*, German ; *Lepelaar*, Dutch ; *Skeeheira*, Dan. ; *Skegaas*, Norweg. ; *Skedstork*, Swed. ; *Kolpitza*, Russ. ; *Abu-Malaqah*, *Danás*, Arab. ; *Bou-kar-kaba*, Moor. ; *Chamach-buza*, Hindu. ; *Hiro-sagi*, Jap.

♂ *ad.* (Holland). Entire plumage pure white, except that the lower neck is buffy yellow nuchal feathers much elongated, forming a crest ;

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bill black marked with dull yellowish, the plate yellow, marked on the upper part with black; loral space yellowish; bare gular space reddish yellow; legs and feet dusky blackish; iris red. Culmen 7·2, wing 15·0, tail 5·0, tarsus 5·0, bare part of tibia 3·5 inch. Female similar but with smaller crest. In the winter the crest is absent or nearly so.

Hab. Central and southern Europe, formerly breeding in England, but now of rare occurrence in Britain and southern Scandinavia; has strayed to the Færoes; Madeira, Canaries, and Azores; Africa, on the east side south to Zanzibar, being replaced in S. Africa by *P. tenuirostris*, Temm.; Asia east to China, north to southern Dauria; a rare straggler to Japan, where *P. minor* occurs in the extreme south.

The Spoonbill affects marshy localities, especially near the sea-coast, and is shy and wary in its general habits. Its flight somewhat resembles that of the Stork, and its note is said to be deep and Heron-like, but like the Stork it makes a clattering sound with its bill. Its food consists of amphibians, aquatic insects, &c. It breeds in communities, placing its nest on a tree or on a low bush, or else amongst the reeds. The nest is constructed of twigs, sticks, and flags, lined with small flags or rushes, and the eggs, 3 to 4 in number, are white, with the faintest blue tinge when fresh, sparsely spotted and blotched with pale red, and measure about 2·75 by 1·81. In Europe the breeding season is usually in May, but in India it varies from April to November according to latitude.

813. Black-faced Spoonbill.

PLATALEA MINOR.

Platalea minor, Temm. and Schlegel, Faun. Jap. Aves, p. 120, pl. 76; Sharpe, Cat. B. Br. Mus. xxvi. p. 50; Seebohm, B. Jap. Emp. p. 231.

♂ *ad.* Differs from *P. leucorodia* in being smaller, in having the bare forehead and bare portion to behind the eye and the upper throat black; a yellow spot in front of the eye; feathers on the upper throat extending in a point towards the chin.

Hab. Corea; Japan (near Nagasaki); China and Formosa.

In habits it does not appear to differ from *P. leucorodia*, but I find nothing on record respecting its nidification.

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IBIS, Cuvier, 1817.

814. Sacred Ibis.

IBIS ÆTHIOPICA.

Ibis æthiopica (Lath.), Ind. Orn. ii. p. 706 (1790); Shelley, B. of Egypt, p. 261; Dresser, ix. p. 285, pl. 694; Sharpe, Cat. B. Br. Mus. xxvi. p. 4; *I. religiosa*, Cuv. Règne An. i. p. 483 (1817).

Naädje, *Abu-Quadum*, Arab.; *Abu-Hannes*, Egypt; *Schoorsteinveger*, Dutch in S. Africa.

♂ *ad.* (Transvaal). General plumage white except the tips of the primaries and outer secondaries, which are black, glossed with metallic green; inner secondaries elongated, lax, on the basal portion bluish grey, and on the terminal portion black glossed with purple, forming a plume which covers the tail; head and neck bare, dull black; beak and legs black; iris brown. Culmen 7·0, wing 15·4, tail 6·3, tarsus 4·0 inch. Female rather smaller, the plumes duller. The young bird has the head and neck covered with short black and white feathers.

Hab. Africa south to the Cape; Algeria and Egypt rarely is said to have occurred in the Caucasus; Southern Persia.

The Sacred Ibis is very cautious and wary and is generally to be seen in small companies. Its food consists of insects of various kinds, frogs, lizards, and snakes. Its call-note is said to be harsh, resembling that of *Ardea ibis*. It nests on trees, constructing a simple nest of coarse twigs lined with grass and a few feathers, and lays 3 to 4, seldom 5, eggs, which are white with a bluish tinge, sparingly marked with brown, and measure about 2·5 by 1·6.

815. White Ibis.

IBIS MELANOCEPHALA.

Ibis melanocephala (Lath.), Ind. Orn. ii. p. 709 (1790); David and Oust. Ois. Chine, p. 452; Seebohm, B. Jap. Emp. p. 232; Sharpe, Cat. B. Br. Mus. xxvi. p. 7; Blanf. F. Brit. Ind. Birds, iv. p. 361; *I. propinqua*, Swinh. P.Z.S. 1870, p. 428; Blakist. and Pryer, B. Jap p. 117.

Munda, *Didhar*, Hindu.; *Tatu-koka*, Cing.; *Kaynsoti*, Burm.; *Kuro-toki*, *Kama-sagi*, *Nabe-kaburi*, Jap.

♂ *ad.* Differs from *I. æthiopica* in breeding-dress in having the primaries white, sometimes edged or mottled with brown, and not tipped with black, having elongate white feathers round the base of the neck and

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plumes on the upper breast, and the elongated inner secondaries are grey, and not black ; head and neck bluish black ; bill black ; legs glossy black ; iris reddish brown ; skin of wing blood-red. Culmen 6·4, wing 14·4, tail 5·0, tarsus 4·2 inch. Female similar. In winter the elongated pectoral plumes and those on the upper parts are wanting. The young bird has the head and neck feathered forward to the eyes, the head, except beneath, blackish grey, passing into white on the hind-neck.

Hab. India, Ceylon, Burma, China, Manchuria, Japan, (Yokohama, Tokio).

Like its allies it frequents marshy places, rivers, lakes, and large ponds, usually in flocks, feeding on mollusca, crustacea, aquatic insects, worms, etc. In Northern India the breeding season is from June to August, and in Ceylon from November to February, and it breeds in trees, sometimes singly and at others several pairs together, constructing a nest of sticks and twigs lined with finer twigs, and depositing 2 to 4 eggs, white, occasionally delicately spotted with pale yellowish brown, varying a good deal in size but averaging 2·54 by 1·7.

816. Japanese Ibis.

IBIS NIPPON.

Ibis nippon, Temm. Pl. Col. v. pl. 551 (1835) ; David and Oust. Ois. Chine, p. 453, pl. 116 ; Seebohm, B. Jap. Emp. p. 232 ; (Sharpe), Cat. B. Br. Mus. xxvi. p. 15 ; Tacz. F. O. Sib. O. p. 967 ; *I. nippon*, var. *sinensis*, David and Oust. Ois. Chine, p. 454, pl. 117.

Toki, Dau, Jap.

♂ *ad.* (Japan). General colour of plumage white, the wings, tail, and axillaries tinged with almond pink ; feathers on the nape and hind-neck elongated, forming a crest ; lores, forehead, and chin orange-vermilion ; eyelid golden yellow ; iris orange ; bill black, mottled with red at the tip ; nail yellow ; legs, feet, and naked part of tibia light red. Culmen 6·1, wing 15·4, tail 6·2, tarsus 2·8 inch. Sexes alike. The young bird has the plumage grey, not white.

Hab. South-eastern Siberia, Manchuria ; China, Formosa, and Hainan ; Corea ; Japan.

In its general habits it is said to be shy and wary, frequenting large marshes, damp localities, and the banks of streams and rivers. Its note is harsh, not unlike that of the Hooded Crow, but deeper and harsher. It nests in bushes and trees, but so far as I can ascertain its eggs are as yet unknown.

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817. Red-cheeked Ibis.

IBIS EREMITA.

Ibis eremita (Linn.), Syst. Nat. i. p. 159 (1766); (Rothsch. and Hart.), Novit. Zool. iv. p. 371, pls. viii. ix. x. (1897); *Ibis comata*, Rüpp. Neue Wirbelth. Vögel. p. 49 (1835–40); Dresser, vi. p. 329, pl. 408; (Sharpe), Cat. B. Br. Mus. xxvi. p. 16; *I. calvus*, Levaill. jr. Expl. Scient. de l'Alg. pl. 12 (1850, nec. Bodd.).

Kel-ainak, Turk.

♂ *ad.* (Asia Minor). General plumage dark coppery green, the crown black; head and throat bare; feathers on the neck elongated, pointed, forming a ruff; lesser wing-coverts rich coppery purple; bill, naked throat, and head with the legs dull blood-red; iris fiery red. Culmen 5·2, wing 16·7, tail 8·5, tarsus 3·0 inch. The tips of the tail-feathers are abruptly acuminate. Sexes alike. The young bird is duller in colour, lacks the elongated feathers on the hind-neck, and the head and neck are covered with dirty white feathers, tinged with rusty brown.

Hab. In the 16th century this Ibis was a native of Switzerland, as stated by Gesner, but it now only inhabits Asia Minor, and North Africa south to Abyssinia.

Frequents rocky and desolate mountain ranges, where it feeds on insects of various kinds, snails, and reptiles. It nests in holes in the cliffs, generally in almost inaccessible places, and deposits bluish white eggs which measure about 2·52 by 1·74.

PLEGADIS, Kaup, 1829.

818. Glossy Ibis.

PLEGADIS FALCINELLUS.

Plegadis falcinellus (Linn.), Syst. Nat. i. p. 241 (1766); (Naum.), viii. p. 539, Taf. 219; (Hewitson), ii. p. 321, pl. lxxxvi.; Gould. B. of E. iv. pl. 301; id. B. of Gt. Brit. iv. pl. 47; Dresser, vi. p. 335, pl. 409; Audub. B. of Am. pl. 387; Sharpe, Cat. B. Br. Mus. xxvi. p. 29; Blanf. F. Brit. Ind. Birds, iv. p. 364; Saunders, p. 391; Lilford, vii. p. 47, pl. 17; *P. autumnalis*, Ridgw. p. 124.

Ibis falcinelle, French; *Maçarico preto*, Portug.; *Morito*, Span.; *Mignattaio*, Ital.; *Dunkelfarbige Sichler*, German; *Sort-Ibis*, Dan. and Norweg.; *Svart-Ibis*, Swed.; *Koravaika*, Russ.; *Madzet el Mâ*, Arab; *Maiza*, Moor.; *Kawâri*, *Chota-buza*, Hindu.

♂ *ad.* (Spain). Forepart of head metallic greenish black, rest of head, neck, upper back, edge of shoulder and under parts rich deep copper-brown; back glossed with purple; rest of upper parts, wings and tail

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blackish, glossed with purple and green ; under tail-coverts purplish black ; bill blackish slate, at the base slate-grey ; legs blackish grey ; iris brown, Culmen 5·2, wing 11·5, tail 4·7, tarsus 4·0 inch. Female similar but a trifle smaller. In the winter the head and neck are blackish brown, finely streaked with white, and the young resemble the adult in winter dress, but are duller in colour, the copper-brown replaced by dull dark brown.

Hab. Central and southern Europe, straying rarely to southern Scandinavia and Great Britain, but has occurred in Iceland and the Færoes ; Africa south to Natal ; Central Asia and India east to Burma and probably China, south to Ceylon, Borneo, Java, Celebes, New Guinea, and Australia ; eastern United States south to Florida and Mexico.

Generally found in marshes or near water. It is as a rule a silent bird, only uttering a harsh note when flushed. Its food consists of aquatic insects, worms, crustacea, small frogs, etc. It breeds in large marshes in societies, making a flat nest of sticks, flags, etc., which is placed on the ground, on the dense aquatic plants, or on a tree, and deposits 3 or 4 rich greenish blue eggs, which measure about 1·95 by 1·41. In Europe the breeding season is in May, whereas in northern India it is in June, and in Ceylon between November and February.

PHŒNICOPTERUS, Briss., 1760.

819. Flamingo.

PHŒNICOPTERUS ROSEUS.

Phœnicopterus roseus, Pall. Zoogr. Ross. As. ii. p. 207 (1811) ; Gould, B. of E. pl. 287 ; Dresser, vi. p. 343, pl. 410 ; Salvadori, Cat. B. Br. Mus. xxvii. p. 12 ; Blanf. F. Brit. Ind. Birds, iv. p. 408 ; Saunders, pp. 395, 756 ; Lilford, vii. p. 54, pl. 19 ; *P. antiquorum*, Temm. Man. d'Orn. ii. p. 587 (1820) ; Naum. ix. p. 408, Taf. 233.

Flammant, French ; *Flamingo*, Portug. ; *Flamenco*, Span. ; *Fiammanti, Fenicottero*, Ital. ; *Rosenfarbiger Flamingo*, German ; *Krasnõi Gouss*, Russ. ; *Bog-háns, Rag-háns*, Hindu. ; *Kaj-i-surkh*, Persian.

♂ *ad.* (Spain). Plumage rosy-white, the tail deeper rose ; upper and lesser under wing-coverts and axillaries vermilion rose ; quills black ; legs, base of bill, and bare space round the eye flesh-pink ; feet webbed ; terminal portion of bill deep black ; iris pale yellow. Culmen 5·65, wing 16·7, tail 7·0, tarsus 12·4 inch. Female similar but slightly smaller. The young have the plumage white, tinged with rusty buff, especially on the upper neck ; wing-coverts chiefly brown ; quills brown ; axillaries rose-pink ; legs dull plumbeous.

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Hab. Southern Europe, rarely straying to central Europe, but has occurred at least four times in Great Britain; Africa south to the Cape; Asia east to India, south to Ceylon; is said to have occurred once on the southern part of Lake Baikal.

The Flamingo frequents the sea-coasts and the borders of large fresh-water lakes, or of lagoons where the country is open and devoid of trees or bushes, and is usually seen in vast flocks wading in the shallow water, and working about in the soft bottom in search of its food, which consists of minute crustaceans, and it is said, also of vegetable matter. In its cry, formation of flight, and structure, it most nearly resembles the Goose, and it swims also with ease. It breeds in colonies, making a small hillock of mud in the shallow water, varying from a few inches to a couple of feet in height, larger at the base, and tapering to the top, which is hollowed out cup-shaped, and late in May it deposits 2 eggs, which are white with a chalky surface, in size and shape resembling those of *Anser ferus*, but more elongated, measuring from 3·34 by 2·05 to 3·48 by 2·20. When sitting the bird doubles its long legs under its body.

ANSER, Briss., 1760.

820. Greylag-Goose.

ANSER FERUS.

Anser ferus, Schaeff. Mus. Orn. p. 67, No. 214 (1789); Gould, B. of E. v. pl. 347; id. B. of Gt. Brit. v. pl. 1; Hewitson, ii. p. 382, pl. cviii. fig. 2; Salvadori, Cat. B. Br. Mus. xxvii. p. 89; Blanf. F. Brit. Ind. Birds, iv. p. 416; *A. cinereus*, Meyer, Taschenb. ii. p. 552 (1810); Naum. xi. p. 229, Taf. 285; Dresser, vi. p. 355, pl. 411; Tacz. F. O. Sib. O. p. 1089; Saunders, p. 397; Lilford, vii. p. 55, pl. 20; "*A. rubrirostris*, Hodgs." Gray, Cat. Hodgs. Coll. B. M. p. 144 (1846); Salvadori, tom. cit. p. 91.

Oie cendrée, French; *Ganso*, Portug. and Span.; *Oca selvatica*, Ital.; *Graugans*, German; *Graauwe Gans*, Dutch; *Graagaas*, Dan. and Norweg.; *Grågås*, Swed.; *Iso-hanhi*, Finn.; *Seryi-Gus*, Russ.; *Sona*, Hindu.

♂ *ad.* (Scotland). Head, neck, and upper parts ashy brown, a narrow line of white on the forehead, the crown, back, and scapulars darker, the two latter with light brown edgings; primaries grey, with dark brown ends; secondaries dark brown; central wing-coverts like the back, the rest ashy blue-grey; rump ashy grey, the sides and tail-coverts white; tail ashy-brown, tipped with white; under parts dull white with a few black spots on the belly; the flanks ashy brown, tipped with ashy white; bill and

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legs flesh-coloured; nail and claws white; iris brown. Culmen 2·55, wing 18·0, tail 5·9, tarsus 3·3 inch. Sexes alike. Young rather duller in colour, with no black spots on the under parts.

Hab. Europe generally, from the North Cape to the Mediterranean; Britain, breeding commonly in the north of Scotland; Iceland, and the Færoes; North-west Africa in winter; Asia east to China, north to Dauria, south to northern India.

Is shy and cautious, and frequents open localities. On the wing it is strong, and swims and even dives, and walks with ease, and, when traversing long distances, flies in a wedge-shaped formation. It feeds on vegetable substances, tender shoots of grass, grain, etc., feeding chiefly at night. Its nest is placed on the ground and consists of grass, dried flags, etc., being lined, after the eggs are deposited, with abundance of down plucked by the female from off her breast. The eggs, which are deposited from early in April to the end of May or beginning of June, according to latitude, are glossless, but smooth in surface, dull yellowish white, with, when fresh laid, a very faint tinge of green, and measure about 3·52 by 2·28. In number they vary from 6 to 12.

Count Salvadori and several other authors separate the Asiatic bird (*A. rubrirostris*) from ours, but I agree with Mr. Blanford in not following this course.

821. Bean Goose.

ANSER FABALIS.

Anser fabalis (Lath.), Gen. Synop. Suppl. i. p. 297 (1787); Salvadori Cat. B. Br. Mus. xxvii. p. 99; *A. segetum*, Gmel. Syst. Nat. i. p. 512 (1788), fig. 2; Naum. xi. p. 300, Taf. 287; Hewitson, ii. p. 385, pl. cviii. fig. 2; Gould, B. of E. v. pl. 348; id. B. of Gt. Brit. v. pl. 2; Dresser, vi. p. 363, pl. 412; Tacz. F. O. Sib. O. p. 1095; Saunders, p. 401; Lilford, vii. p. 61, pl. 22.

Oie vulgaire, French; *Ganso*, Portug. and Span.; *Oca granaiola*, Ital.; *Saatgans*, German; *Rietgans*, Dutch; *Sædgaas*, Dan. and Norweg.; *Sädgås*, Swed.; *Metsähanhi*, Finn.; *Gumённик*, *Nemock*, Russ.; *Hishikui*, Jap.

♂ *ad.* (England). Differs from *A. ferus* in being somewhat darker in colour, in lacking the black markings on the under parts, and the ashy blue on the wings, in being smaller in size, and in having the bill blackish, crossed by a broad orange yellow-band; the nail black; the legs orange-

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yellow. Culmen 2·35, wing 16·9, tail 5·7, tarsus 2·8 inch. Female similar but somewhat smaller. This species varies considerably in size in both sexes.

Hab. Europe generally, from Lapland and Novaya Zemlya down to North Africa in winter, and has occurred in Madeira; Asia east to western Siberia; does not occur in India.

In habits it does not differ from its allies, but it affects inland localities more especially, even when frequenting the coasts, flying far inland to feed. Its food consists of tender grass-shoots, grain, and tender roots of various kinds of grass, and it appears to feed chiefly at early dawn. It breeds like *A. ferus*, usually in damp localities, in the north of Sweden, Finland, and Russia, but not in Great Britain, depositing early in June 5 to 6 eggs, which resemble those of *A. ferus* but are smaller and somewhat smoother in texture of shell.

822. Subsp. Anser middendorffi.

A. grandis, Midd. Sib. Reise, ii. p. 225, Tab. xx., fig. 1 (1851 nec. Gmel.); *A. middendorffi*, Severtzoff, Turk. Jevot. pp. 70, 149 (1873); Tacz. F. O. Sib. O. p. 1098; Salvadori, Cat. B. Br. Mus. xxvii. p. 102.

Hishikui, Jap.

♂ *ad.* (N. Siberia). Differs from *A. fabalis* in being larger, with conspicuously larger beak and feet, and in having the head and neck buffish brown. Culmen 3·15, wing 19·8, tail 5·67, tarsus 3·31.

Hab. Eastern Siberia, wintering in China and Japan. Does not differ from *A. fabalis* in habits or nidification.

823. Pink-footed Goose.

ANSER BRACHYRHYNCHUS.

Anser brachyrhynchus, Baill. Mem. Soc. R. d'Abbev. 1833, p. 74; Hewitson, ii. p. 386, pl. cviii. fig. 1; Gould, B. of Gt. Brit. v. pl. 31; Dresser, vi. p. p. 369, pl. 413; Salvadori, Cat. B. Br. Mus. xxvii. p. 103; Blanf. F. Brit. Ind. Birds, iv. p. 418; Saunders, p. 403; Lilford, vii. p. 63, pl. 23.

Kleine Rietgans, Dutch; *Spetsbergens Sädgds*, Swed.

ad. (England). Differs from *A. segetum* in being smaller, having a shorter bill, and the legs, feet, and central portion of the bill pink. Culmen 1·75, wing 16·0, tail 5·6, tarsus 2·25 inch.

Hab. Spitsbergen, where it breeds, and is also said to breed in North Iceland; in the autumn and winter south to Britain, France, Germany, and Scandinavia; of very doubtful occurrence

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in India; has also been recorded, in error it would seem, from Japan.

In habits it differs but little from *A. ferus*, and is generally met with on or near the sea coast. Its nest is placed in some grass-covered place, near a river, or on a cliff, always where the bird can have a good view of the surrounding country. It deposits early in July 4 to 5 eggs, which resemble those of *A. ferus* but measure only 3·33 by 2·26.

824. White-fronted Goose.

ANSER ALBIFRONS.

Anser albifrons (Scop.), Ana. i. Hist. Nat. p. 69 (1769); Naum. xi. p. 351, Taf. 289; Hewitson, ii. p. 387, pl. cix. fig. 3; Gould, B. of E. v. pl. 349; id. B. of Gt. Brit. v. pl. 4; Dresser, vi. p. 375, pl. 414; Salvadori, Cat. B. Br. Mus. xxvii. p. 92; David and Oust. Ois. Chine, p. 492; Ridgway, p. 116; Blanf. F. Brit. Ind. Birds, iv. p. 417; Seebohm, B. Jap. Emp. p. 237; Saunders, p. 399; Lilford, vii. p. 60, pl. 21.

Oie rieuse, French; *Oca lombardella*, Ital.; *Blässengans, Lachgans*, German; *Kolgans*, Dutch; *Blisgaas*, Dan. and Norweg.; *Bläsgås*, Swed.; *Kazarka*, Russ.; *Kari-gane*, Jap.

♂ *ad.* (Scotland). Upper parts dark ashy brown, the wing-coverts ashy brown tipped with dirty white; a broad band covering the forehead extending nearly to the eye, and a smaller spot at the base of the lower mandible pure white; under parts white, the flanks ashy brown, the breast and abdomen boldly blotched with black; bill and legs orange-yellow, nail white; iris dark brown. Culmen 2·25, wing 17·0, tail 6·0, tarsus 2·65 inch. Female rather smaller, with the white on the forehead less developed. The young bird is duller, lacks the black on the under parts and has the white on the forehead considerably less developed.

Hab. Europe, from the north of Norway to the Mediterranean; rare in Finland, Greenland, and Iceland; North Africa in the winter; Asia east to Japan, north to Siberia, south in winter to Northern India; North America south in winter to Texas, Mexico, and Cuba.

Does not differ from its allies in its habits, but is said to prefer low, damp localities to the uplands. It feeds on vegetable matter, but is stated by some authors to eat, to some extent at least, insects. It breeds in the high north near water, not immediately on the coast, making a tolerably large nest which is placed on the ground, and deposits 4 to 6 yellowish white eggs, which measure about 3·06 by 2·2.

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825. Subsp. Anser gambeli.

Anser gambeli, Hartl. Rev. and Mag. Zool. 1852, p. 7; Ridgway, p. 116; Tacz. F. O. Sib. O. p. 1091; Seebohm, B. Jap. Emp. p. 237; Salvadori, Cat. B. Br. Mus. xxvii. p. 95.

Karigane, Jap.

♂ *ad.* (N. America). Differs from *A. albifrons*, but is somewhat larger and has a larger bill; bill flesh-colour with a square figure on the culmen, the edges of nostrils, a small spot below them and the basal two-thirds of the lower half of the under mandible yellow; legs vivid cadmium-yellow; iris dark brown; naked eye-ring dark brownish grey. Culmen 2·35, wing 17·50, tail 6·20, tarsus 3·0.

Hab. North America, breeding far north; in winter south to Mexico and Cuba; the coasts of Eastern Siberia, Japan and China on passage and in winter.

826. Lesser White-fronted Goose.

ANSER ERYTHROPUS.

Anser erythropus (Linn.), Syst. Nat. i. p. 197 (1766); Newton, P.Z.S. 1860, p. 341; David and Oust. Ois. Chine, p. 492; Dresser, vi. p. 383; Salvadori, Cat. B. Br. Mus. xxvii. p. 97; Tacz. F. O. Sib. O. p. 1093; Blanf. F. Brit. Ind. Birds, iv. p. 418; *A. temminckii*, Boie, Isis, 1822, p. 882; *A. minutus*, Naum. xi. p. 365, Taf. 290; Seebohm, B. Jap. Emp. p. 238.

Zwerggans, German; *Dwerggans*, Dutch; *Dværggaas*, Dan. and Norweg.; *Dverggås*, *Fjellgås*, Swed.; *Kiljuhanhi*, Finn.; *Piskun*, Russ.; *Ko-karigane*, Jap.

♂ *ad.* (Norway). Differs from *A. albifrons* in being darker and smaller, the bill smaller and the white on the forehead extending nearly to the centre of the crown; bill fleshy white, nail pale horn; legs and edge of eyelid orange-yellow. Culmen 1·5, wing 15·5, tail 5·0, tarsus 2·5 inch.

Hab. Northern Scandinavia, rare in the west and not found in Great Britain; rare in winter in central and southern Europe, and as far south as Egypt; Northern Asia, east to Japan, straying, though rarely, south to India in winter.

In habits it resembles *A. albifrons*. It breeds in certain districts in Lapland, nesting on the ground under bushes near water, and in June deposits 6 to 8 dirty yellowish white eggs, which measure about 2·91 by 2·0.

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827. BAR-HEADED GOOSE.

ANSER INDICUS.

Anser indicus (Lath.), Ind. Orn. ii. p. 839 (1790); Salvadori, Cat. B. Br. Mus. xxvii. p. 105; Blanf. F. Brit. Ind. Birds, iv. p. 419; Tacz. F. O. Sib. O. p. 1087; *A. skorniakovi*, Severtz. Turk. Jevot. pp. 70, 149, pl. x. figs. 3, 4.

Kareyi-Hánz, Hindu.

♂ *ad.* (India). Head and a long white band down each side of the neck white; two horseshoe-shaped black bars on the occiput and nape; rest of neck ashy brown; upper parts ashy grey with pale tips to the feathers, the mantle and scapulars tinged with brown; lower back and rump pure ashy grey; under parts whity brown, the sides of the breast browner, the feathers with pale tips forming bars; abdomen, flanks, upper and under tail-coverts white; quills and tail grey margined and tipped with white, the secondaries browner; bill yellow; legs orange; iris brown. Culmen 2·0, wing 18·0, tail 6·0, tarsus 3·0 inch. In the young bird the black bars on the nape are absent, the crown and nape are dark brown, the white neck-stripes are absent; back grey and under parts nearly white.

Hab. Turkestan; Mongolia; Tibet; north to Lake Baikal, wintering in India.

In habits it does not appear to differ from its allies, and in the autumn and winter is generally met with in small or large flocks, and feeds chiefly on grain, the feeding time being usually in the early morning and evening. It breeds in Mongolia and Tibet in May and June, but I find nothing on record respecting its nidification.

828. CHINESE GOOSE.

ANSER CYGNOIDES.

Anser cygnoides (Linn.), Syst. Nat. i. p. 108 (1766); Pall. Zoogr. Ross. As. ii. p. 218 and pl.; David and Oust. Ois. Chine, p. 493; (Salvadori), Cat. B. Br. Mus. xxvii. p. 107; Seebohm, B. Jap. Emp. p. 235.

Suchonos, Russ.; *Sakatsura-hishikui*, Jap.

♂ *ad.* (Siberia). Crown and band along the hind-neck dark brown; a narrow line round the base of the bill dull white; cheeks and neck whitish, along the front of the neck tinged with brown; upper parts greyish brown with pale margins to the feathers; quills grey; tail brownish grey with white margins; under parts buffy white, fading to white on the abdomen and under tail-coverts; breast-feathers with rusty margins; flanks brown with pale margins; bill black; legs orange; iris

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reddish brown. Culmen 3·5, wing 17·7, tail 7·1, tarsus 3·0 inch. Domestic birds of this species, and occasionally wild birds, have a large frontal knob on the bill, and the domestic bird has the bill red.

Hab. Eastern Siberia, from the Ob river to Kamchatka and the Kurile Islands, wintering in China, resident in Japan; Corea and Mongolia on passage; Manchuria.

Though it does not differ from the other Geese in its general habits it is said to affect the rivers in preference to the lakes, and breeds on the grassy steppes, the nest being a mere depression in the ground lined with a little dry herbage, and deposits 4 to 6 eggs, which are creamy white, rather smooth in texture of shell, and measure about 3·24 by 2·10.

BRANTA, Scop., 1769.

829. Brent Goose.

BRANTA BERNICLA.

Branta bernicla (Linn.), Syst. Nat. i. p. 198 (1766); (Wils.), Am. Orn. viii. pl. 72, fig. 1; (Audub.), B. Am. vi. p. 203, pl. 379; Salvad. Cat. B. Br. Mus. xxvii. p. 119; Ridgway, p. 118; *B. torquata* (Naum.), xi. p. 393, Taf. 292 (nec. Gmel.); *B. brenta* (Tunst.), Orn. Brit. p. 4 (1771); (Gould), B. of E. v. pl. 352; (id.) B. of Gt. Brit. v. pl. 7; (Dresser), vi. p. 389, pl. 415, fig. 2; (Saunders), p. 411; (Lilford), vii. p. 69, pl. 26.

Bernache cravant, French; *Oca colombaccio*, Ital.; *Ringel-Gans*, German; *Rotgans*, Dutch; *Knortegaas*, Dan.; *Gaul*, *Ringgaas*, Norweg.; *Prutgås*, Swed.; *Kaulushanhi*, *Sepelhanhi*, Finn.; *Koku-gan*, Jap.

♂ *ad.* (England). Head, neck, upper back and breast black; sides of the neck marked with white; rest of back, scapulars, and wing-coverts dark brown margined with lighter brown; rump blackish brown, the sides and upper tail-coverts white; tail and quills blackish brown; under parts white, the upper parts indistinctly barred with pale ashy brown; flanks ashy brown with white margins; bill and legs black; iris dark brown. Culmen 1·5, wing 12·6, tail 4·2, tarsus 2·1 inch. Female similar. The young bird has the plumage duller than the adult.

Hab. The high north of Europe, Asia and Eastern North America, in winter migrating south to the British Islands, continental Europe, and sparingly to the Mediterranean; in Asia south to Japan; in America south to the Mississippi valley.

Is essentially a bird of the coast and is seldom found far from the sea. It feeds chiefly on vegetable matter but is also said

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to eat small shellfish and marine insects. It breeds in Spitsbergen, Greenland, and the north of Siberia, &c.; its nest, which is a bulky structure of grass and moss lined with down, is placed on the ground not far from the sea. The eggs usually 4 in number are creamy white, smooth in surface of shell and measure about 2·88 by 1·85.

830. Black Brant.

BRANTA NIGRICANS.

Branta nigricans (Lawr.), Ann. Lyc. N. Y. iv. p. 171, pl. xii. (1846); (Seebohm), B. Jap. Emp. p. 240; Salvadori, Cat. B. Br. Mus. xxvii. p. 123; Ridgway, p. 118.

♂ *ad.* (N. America). Differs from *B. bernicla* in having a conspicuous white collar meeting in front and interrupted only behind, the upper part almost uniform sooty brown, and the abdomen almost as black as the breast. Culmen 1·30, wing 13·10, tail 3·7, tarsus 2·30 inch.

Hab. Western North America from the high north in summer to Lower California in winter; east coasts of Asia from Kamchatka, south in winter to Japan.

In general habits and nidification the present species does not differ from *Branta bernicla*.

831. Hutchins' Goose.

BRANTA HUTCHINSI.

Branta hutchinsi (Richardson), Faun. Bor. Am. ii. p. 470 (1831); (Audub.) B. Am. vi. p. 198, pl. 377; Salvadori, Cat. B. Br. Mus. xxvii. p. 114; Tacz. F. O. Sib. O. p. 1109; Ridgway, p. 117; (Seebohm), B. Jap. Emp. p. 239; *B. leucopareia* (Brandt) Bull. Sc. Acad. St. Petersb. i. p. 37 (1836).

Shi-jiu-kara-gan, Jap.

Ad. Head and neck black; chin, throat, and cheeks white; upper parts brown with paler margins, except on the back; rump black; under parts brown, the lower neck whitish, the vent and under tail-coverts pure white; bill and legs blackish plumbeous; iris dark brown. Culmen 2·3, wing 16·0, tail 5·5, tarsus 3·25 inch.

Hab. Arctic and subarctic America, in winter south to Mexico; Eastern Siberia, the Kurile and Commander Islands; Japan in winter.

In habits it does not differ from *B. bernicla*, and its nest and eggs also resemble those of that species, the latter measuring about 3·18 by 2·18.

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832. Bernacle Goose.

BRANTA LEUCOPSIS.

Branta leucopsis (Bechst.), Orn. Taschenb. ii. p. 424 (1803); (Naum.) xi. p. 378, Taf. 291; (Gould), B. of E. v. pl. 350; (id.), B. of Gt. Brit. v. pl. 7; (Dresser), vi. p. 397, pl. 415, fig. 1; Salvadori, Cat. B. Br. Mus. xxvii. p. 117; (Saunders), p. 409; (Lilford), vii. p. 69, pl. 26; Ridgway, p. 117.

Oie-bernache, French; *Weisswangengans*, German; *Brandgans*, Dutch; *Bramgaas*, Dan.; *Hvidkindet Gaas*, Norw.; *Hvitkindad Gås*, Swed.

Ad. (Holland). Hind-crown, lores, nape, hind-neck, breast, and upper back deep black; rest of the head and upper throat white; back-feathers with scapulars and wing-coverts bluish grey narrowly tipped with white and subterminally barred with black; rump black; the sides and tail-coverts white; quills and tail black; under parts white, the flanks indistinctly barred with greyish; bill and legs black; iris dark brown. Culmen 1·65, wing 15·8, tail 5·9, tarsus 2·85 inch.

Hab. Arctic Europe, in winter migrating south to the shores of the British Islands, Scandinavia, and northern continental Europe, rarely to southern Europe; as a straggler occurring on the Atlantic coasts of North America from Hudson's Bay to North Carolina.

In general habits it does not differ from the Brent Goose. It is during the summer a more boreal species and scarcely anything is known respecting its nidification, but it probably breeds in Greenland. I possess two eggs from the most northern of the Lofoten Islands, laid by a wounded bird, which in colour resemble those of *B. bernicla* but are rougher in texture of shell, and measure 2·64 by 1·82 and 2·62 by 1·76 respectively.

833. Red-breasted Goose

BRANTA RUFICOLLIS.

Branta ruficollis (Pallas), Spicil. Zool. fasc. vi. p. 21, Taf. iv. (1769); (Naum.) xi. p. 408, Taf. 293; (Gould), B. of E. v. pl. 351; (id.), B. of Gt. Brit. v. pl. 6; (Dresser), vi. p. 403, pl. 416; Salvadori, Cat. B. Br. Mus. xxvii. p. 124); Tacz. F. O. Sib. O. p. 1110; (Saunders), p. 407; Lilford, vii. p. 67, pl. 25.

Bernache à cou roux, French; *Rothhalsgans*, German; *Roodhalsgans*, Dutch; *Rödhalsad Gås*, Swed.; *Chakvoi*, Russ.

♂ *ad.* (Russia). Crown, nape, throat, forepart of cheeks, and a band encircling the eye black; loral patch, a spot below the eye, a stripe continued back, and another down on the neck pure white; auricular patch, the whole of the forepart of the chest, and the sides of the neck extending

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back and forming an interrupted collar rich chestnut-red ; a narrow band across the lower breast white ; back, rump, lower breast, and upper abdomen black ; lower abdomen, flanks, upper and under tail-coverts white ; quills and tail black ; bill and feet black ; iris dark brown. Culmen 1·0, wing 14·5, tail 6·0, tarsus 2·1 inch. Sexes alike. In the young bird the black is replaced by dark brown, the auricular patch is tinged with brown and varied with white, and the neck and breast are dull reddish buff.

Hab. Northern Siberia, migrating south in winter to Turkestan, the Caspian, and even as far as Egypt ; an accidental straggler to various parts of continental Europe and Great Britain.

In general habits it does not differ from its allies, and like them feeds on vegetable substances. Its eggs were first described and figured by von Middendorff in 1851, and in 1895 Mr. Popham took four nests on the Yenesei River which contained from 7 to 9 eggs, creamy white in colour, and measuring 2·79 by 1·93. The nests were placed at the foot of a cliff, and well supplied with down.

CHEN, Boie, 1822.

834. Snow Goose.

CHEN HYPERBOREUS.

Chen hyperboreus, (Pallas), Spic. Zool. vi. p. 20 (1767) ; (Naum.), xi. p. 213, Taf. 381 ; (Gould), B. of E. v. pl. 346 ; Dresser, vi. p. 413, pl. 417, fig. 1 ; Salvadori, Cat. B. Br. Mus. xxvii. p. 84 ; Tacz. F. O. Sib. O. p. 1086 ; Saunders, p. 405 ; Lilford, vii. p. 66, pl. 24 ; Ridgway, p. 115 ; *C. albatus* (Cassin), Proc. Ac. Philad, 1856, p. 41 ; Dresser, vi. p. 409, pl. 417, fig. 2.

Bieloi Gus, Russ. ; *Hynka*, Kamchatk. ; *Haku-gan*, Jap.

Ad. (N. America). Entire plumage pure white, except that the primaries are dark ash-grey at the base, otherwise black, and the spurious wing ash-grey ; legs and beak red, tooth white ; iris brown. Culmen 2·50, wing 17·0, tail 6·0, tarsus 3·0 inch. The young bird is brownish grey above, with dark centres to the wing-coverts and dorsal feathers ; under parts greyish white ; bill blackish with a reddish tinge ; legs plumbeous tinged with yellowish red.

Hab. Arctic North America, in winter ranging south to the Gulf of Mexico ; of somewhat rare occurrence in Kamchatka and North-east Siberia, wintering in Japan ; a straggler to Britain, Holland, Germany, Scandinavia, and North Russia.

Is said to be wary and shy ; its flight is strong and steady, and on land it walks with ease. On the sea-shore it feeds on

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shell-fish, fry, and marine plants, but when inland chiefly on vegetable matter. It breeds in the high north of America, most numerously on the Arctic barren grounds, near lakes, the nest being a hollow in the ground well lined with down. The eggs, usually 5 in number, are white, and measure about 3·4 by 2·2.

Chen albescens is merely a small form of the present species, and is now not generally looked on as even subspecifically separable.

835. Emperor Goose.

CHEN CANAGICA.

Chen canagica (Sevastanoff), Nov. Act. Ac. St. Petersb. xiii. p. 346, pl. x. (1800); (Salvadori), Cat. B. Br. Mus. xxvii. p. 109; (Tacz.), F. O. Sib. O. p. 1112; Ridgway, p. 118; *C. pictus* (Pallas.), Zoogr. Ross. As. ii. p. 233, Tab. 67 (1811).

♂ *ad.* Head and hind-neck to the back white, the former often stained with reddish orange; throat and fore-neck dusky brownish; upper and under parts blue-grey, above boldly and below more obsoletely barred with black and white; basal half of the tail slate, the terminal half white, lower mandible dark horn with a white spot on each side of the branching rami; membrane about nares livid blue; rest of upper mandible pale purplish, with a fleshy white wash; edge of nail dark horn, rest of the nail horn-white; legs and feet bright orange-yellow; iris hazel. Culmen 1·55, wing 15·1, tail 5·0, tarsus 2·75 inch. The young has the markings less distinct and the head and neck dusky, the former speckled with white.

Hab. Alaska coasts chiefly about the shores of Norton Sound and valley of the Lower Yukon; the Chukchi Peninsula in North Siberia, Sitka, and Bering Island.

But little is on record respecting the habits of this Goose. On the Vega expedition several nests were found containing 4 to 6 eggs, which are described as being dirty white and measuring about 3·23 by 2·05.

CYGNUS, Bechst., 1803.

836. Mute Swan.

CYGNUS OLOR.

Cygnus olor (Gmel.), Syst. Nat. i. p. 502 (1788); Naum. xi. p. 442, Taf. 295; Gould, B. of Gt. Brit. v. pl. 8; Dresser, vi. p. 419, pl. 418; Salvadori, Cat. B. Br. Mus. xxvii. p. 35; Tacz. F. O. Sib. O. p. 1114; Blanf. F. Brit. Ind. Birds, iv. p. 413; Saunders, p. 417; Lilford, vii. p. 74, pl. 28; *C. mansuetus*, Salerne, Orn. &c. p. 404 (1767); Gould, B. of E. v. pl. 354; *C. immutabilis*, Yarr. P. Z. S. 1838, p. 19; Dresser, vi. p. 429, pl. 419, figs. 1, 2.

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Cygne, French; *Cysne*, Portug.; *Cisne*, Span.; *Cigno reale*, Ital.; *Höker Schwan*, German; *Zwaan*, Dutch; *Knubsvane*, Dan.; *Knötsvan*, Swed.; *Lebed-chipounn*, Russ.

♂ *ad.* (Norfolk). Entire plumage pure white, the head and neck frequently tinged with ferruginous; a large tubercle at the base of the bill, edges of the mandible and orifice of the nostrils black, the beak otherwise orange-red; legs and feet black; iris brown. Gape 3·65, wing 27·0, tail 10·0, tarsus 4·5 inch. Female rather smaller, with a smaller tubercle. The young bird is sooty brownish grey and the bill plumbeous.

Hab. Southern Sweden, Denmark, South-eastern Europe, Southern and Central Asia east, to Mongolia; in winter occasionally as far south as Northern India; a regular winter visitant to North Africa; in a semi-domesticated state it is found throughout Europe.

Though tame and familiar when in a semi-domesticated state the Swan, when wild, is extremely shy and wary. It frequents lakes and rivers, and the coasts chiefly in winter. It swims with ease and grace, but is heavy and clumsy on land. Its food consists of soft portions of aquatic plants, aquatic insects and their larvæ, to a small extent of fish, but it does not appear to eat fish-spawn, of which it has been accused. In a wild state when calling its young it utters a cry not unlike the barking of a small dog. Its nest is a large structure, usually placed on an islet, and its eggs, 5 to 8 in number, are generally deposited in May, and are greenish grey in colour, rather rough in texture of shell and measure about 4·41 by 3·3. It would appear that *C. immutabilis* is merely a variety of the present species.

837. Whooper Swan.

CYGNUS MUSICUS.

Cygnus musicus, Bechst. Gemeinn. Naturg. Vög. Deutschl. iii. p. 830 Taf. 35 (1809); Dresser, vi. p. 433, pl. 419, fig. 4; Salvadori, Cat. B. Br. Mus. xxvii. p. 26; Blanf. F. Brit. Ind. Birds, iv. p. 414; Saunders, p. 413; Lilford, vii. p. 75, pl. 29; *Cygnus ferus*, Leach, Syst. Cat. M. and B. Br. Mus. p. 37 (1816); Gould, B. of E. v. pl. 355; id. B. of Gt. Brit. v. pl. 9; Hewitson, ii. p. 393, pl. cxi. fig. 2; David and Oust. Ois. Chine, p. 493; Tacz. F. O. Sib. O. p. 1115; *C. xanthorhinus*, Naum. xi. p. 478, Taf. 296 (1842).

Cygne Sauvage, French; *Cisne*, Span.; *Cigno selvatico*, Ital.; *Wildschwan*, German; *Wilde Zwaan*, Dutch; *Sangsvane*, Dan.

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and Norweg.; *Sångsvan*, Swed.; *Njukca*, Lapp.; *Joutsen*, Finn.; *Lebed-krikounn*, Russ.; *Ō-haku-chō*, Jap.

♂ *ad.* (Norfolk). Differs from *C. olor* in lacking the frontal tubercle, in having the base of the bill beyond the opening of the nostrils and the bare loral space yellow, the rest of the bill black; legs blackish; iris dark brown. Gape 3·95, wing 23·2, tail 8·9, tarsus 4·3 inch. The young bird resembles that of *C. olor*, but has the bill dull flesh colour, the tip and lateral margins black, and the legs dull flesh colour.

Hab. Iceland, Lapland, and the northern regions of Europe and Asia, migrating in winter south to the Mediterranean, Central Asia, China, and Japan; has once occurred in India.

In habits the Whooper does not differ much from the Mute Swan. It is however by no means a silent bird, and its clear trumpet-like note may frequently be heard when flocks are passing. Its food is the same as that of *C. olor*, but it not unfrequently feeds on land like the Geese. It breeds in single pairs in the vast morasses in the north, building a large nest, and in May deposits 4 to 6, seldom 7, pale yellowish white eggs which measure about 4·6 by 2·87.

C. buccinator, Richardson, the American Whooper, which differs from *C. musicus* in having the bill deep black is said to have been once obtained in Suffolk.

838. Bewick's Swan.

CYGNUS BEWICKI.

Cygnus bewicki, Yarrell, Tr. Lin. Soc. xvi. 2, p. 453 (1830); Hewitson, ii. p. 396, pl. cxi. fig. 1; Gould, B. of E. v. pl. 356; Dresser, vi. p. 441, pl. 419, fig. 3; Salvadori, Cat. B. Br. Mus. xxvii. p. 29; Saunders, p. 415; Lilford, vii. p. 79, pl. 30; Seebohm, B. Jap. Emp. p. 235; *C. minor*, Keyserl. and Blas. Wirbelth. Eur. p. 82 (1840); Gould, B. of Gt. Brit. v. pl. 10; David and Oust. Ois. Chine, p. 494; Tacz. F. O. Sib. O. p. 1118; *C. melanorhinus*, Naum. p. 497, Taf. 297 (1842).

Kleiner Schwan, German; *Kleine Zwaan*, Dutch; *Pibsvane*, Dan.; *Haku-cho*, Jap.

♂ *ad.* (English coast). Differs from *C. musicus* in being smaller, in having the base of the bill lemon-yellow, this colour not reaching to the nostril, the rest of the bill being black; legs black; iris brown; tail-feathers usually 20. Gape 3·4, wing 18·7, tail 7·0, tarsus 3·85 inch.

Hab. North-east Europe and Asia, in winter migrating south to Britain, Scandinavia, continental Europe, Mongolia, China, and Japan. In Europe it is a more eastern species than *C. musicus*, and does not breed further west than European Russia.

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In habits it does not differ from its allies. It breeds in northern Russia and Siberia, its eggs being similar to those of *C. musicus*, but smaller, measuring only 3·3 by 2·4.

The American representative of this species *C. columbianus* (Ord) which has the bill deep black, with a patch of deep orange, is said to have occurred in Scotland, but on very doubtful evidence, and Dr. Stejneger obtained a young specimen on Bering Island in Eastern Siberia in 1882. *Cygnus davidi* Swinhoe (P. Z. S. 1870, p. 430) which is smaller than *C. bewicki*, and has the beak and legs orange-red is said to have occurred in Mongolia, but I have not been able to examine a specimen, and have therefore not included it.

TADORNA, Fleming, 1822.

839. Burrow Sheldrake.

TADORNA CORNUTA.

Tadorna cornuta (S. G. Gmel.), Reis. Russl. ii. p. 185, Taf. 19 (1774); Dresser, vi. p. 451, pl. 420; Salvadori, Cat. B. Br. Mus. xxvii. p. 171; Blanf. F. Brit. Ind. Birds, iv. p. 427; Seebohm, B. Jap. Emp. p. 241; Saunders, p. 419; Lilford, vii. p. 83, pl. 32; *A. tadorna*, Linn. Syst. Nat. i. p. 195; Naum. xi. p. 534, Taf. 298; (Tacz.), F. O. Sib. O. p. 1124; *T. vulpanser*, Flem. Hist. Brit. Anim. p. 122 (1828); Hewitson, ii. p. 397, pl. cxii. fig. 1; Gould, B. of E. v. pl. 357; id. B. of Gt. Brit. v. pl. 11.

Le Tadorne, French; *Pato-tarro*, Span.; *Volpoca*, Ital.; *Bergente*, *Brandente*, German; *Bergeend*, Dutch; *Gravand*, Dan. and Norweg.; *Grafand*, Swed.; *Ristisorsa*, *Kivisorsa*, Finn.; *Pegannka*, Russ.; *Shâh-chakwa*, Hindu.; *Tsukushi-gamo*, Jap.

♂ *ad.* (Norway). Head and upper neck black glossed with bottle-green, the feathers on hind-crown and nape elongated; lower neck white; back and band across the breast fox-red; lower back, rump, upper tail-coverts, and under parts white; primaries and scapulars black; secondaries black on the inner and bottle-green on the outer webs, the elongated inner secondaries chestnut and white with a black stripe; a broad stripe of white all along the middle of the under parts; under tail-coverts orange-red; bill blood-red with a large fleshy knob at the base above; legs rich flesh-red; iris brown. Culmen 2·25, wing 13·0, tail 5·2, tarsus 2·05 inch. Female rather smaller and duller in colour and lacks the knob. In the young the black is replaced by dull dark brown, and the fox-red by rufous brown.

Hab. Europe generally, from the Lofoten islands to the Mediterranean, west to the British Islands; north Africa; Asia

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east to Japan, north to Mongolia, Manchuria, and southern Siberia, south to northern India and China in winter.

In general habits it resembles the Wild Duck a good deal, but is chiefly a coast bird, and is usually shy and wary. The call-note of the male is a deep *korr, korr*, but the note of the female is a quack. It feeds on vegetable matter, small crustaceans, and worms. It breeds in May in holes in the ground, usually rabbit-burrows, and deposits 7 to 12, sometimes as many as 16 eggs, which are well bedded in down, and are yellowish or ivory white, smooth in grain and measure about 2·7 by 1·8.

840. Ruddy Sheldrake.

TADORNA CASARCA.

Tadorna casarca (Linn.), Syst. Nat. iii. App. p. 224 (1768); Dresser, vi. p. 461, pl. 421; Saunders, p. 421; Lilford, vii. p. 81, pl. 31; *T. rutila*, Pall. Nov. Comm. Petrop. xiv. p. 579, Taf. 22, fig. 1; Naum. xi. p. 564, Taf. 299; Gould, B. of E. v. pl. 358; (id.), B. of Gt. Brit. v. pl. 12; Seebohm, B. Jap. Emp. p. 241; (Blanf.), F. Brit. Ind. Birds, iv. p. 428; (Salvadori), Cat. B. Br. Mus. xxvii. p. 117; (Tacz.), F. O. Sib. O. p. 1121.

Tadorne casarca, French; *Pato tarro*, Span.; *Rostente*, German; *Turpan*, Russ.; *Kermesi-Erdek*, Turk.; *Bou-ha*, Moor.; *Wuz Abu-Faroa*, Arab.; *Chakwa* ♂, *Chakwi* ♀, Hindu.;

♂ *ad.* (S. Russia). Head creamy yellow, becoming yellowish red on the neck, which is encircled below by a black ring; lower neck, back, breast, and under parts rich fox-red, paler on the flanks and scapulars; quills, tail, and tail-coverts black; rump yellowish red vermiculated with black; secondaries glossed with green and purple on the outer web; inner secondaries yellowish red tinged with ashy grey on the inner webs; wing-coverts white; bill and legs blackish; iris brown. Culmen 1·75, wing 14·0, tail 5·5, tarsus 2·5 inch. The female lacks the black collar and is whiter on the head, and the young bird resembles the female but is duller, the inner secondaries and scapulars are brown marked with yellowish red, and the white on the wing coverts is soiled with grey.

Hab. Southern and south-eastern Europe, rare in the west; of accidental occurrence in Britain, Sweden, Denmark, and Germany, etc; North Africa; Asia east through central Asia, Tibet, Mongolia, and Manchuria, to China, Corea, and Japan, north to Lake Baikal, south in winter to India, Burma, and Formosa.

In habits it is said to resemble the Geese more than the true Ducks, walks with ease like these, and grazes in the cornfields

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on tender shoots, feeding also on seeds, frogs, worms, and to some extent, is is said, on fish. Unless where unmolested, it is shy and wary. Its note is a peculiar clanging bisyllabic cry frequently uttered. It breeds, often far from the sea, in holes and clefts of the rocks, hollow trees and deserted nests of birds of prey, depositing about the end of May, 12 to 16 eggs which are well bedded in down and resemble those of *T. cornuta*, but are as a rule a trifle smaller.

ÆX, Boie, 1828.

841. Mandarin Duck.

ÆX GALERICULATA.

Æx galericulata (Linn.), Syst. Nat. i. p. 206 (1766); (Seebohm), B. Jap. Emp. p. 248; Gould, B. of Asia, vii. pl. 69; David and Oust. Ois. Chine, p. 501; Salvadori, Cat. B. Br. Mus. xxvii. p. 76; Tacz. F. O. Sib. O. p. 1127; Ridgway, p. 99.

Oshi-dori, Jap.

♂ *ad.* (China). Forehead green, merging into purple on the crown; occipital crest coppery red, becoming dark purple and green below; some of the lateral crest-feathers, region round and behind the eye on the neck, white; upper parts, wings, and rump glossy olivaceous; primaries externally greyish white; short secondaries glossy metallic blue tipped with white, the inner ones falcate on the outer web, glossy blue, the inner web broad fan-shaped, chestnut, margined with velvety blue-black; chin and throat warm pale rufous, the latter with white stripes, the feathers much elongated; upper breast and its sides purplish blue, the latter tipped with white; rest of under parts white, the flanks warm rufous finely vermiculated with black; tarsus and toes reddish yellow, the membranes blackish; bill reddish brown, the nail bluish flesh-colour; iris dark brown, the outer ring yellowish white. Culmen 1·3, wing 9·5, tail 4·5, tarsus 1·4 inch. The female has the upper parts brownish olive, the crown and hind-neck greyish; nuchal feathers elongate; feathers round the eye, and a long stripe behind the eye, white; chin and throat white; breast brownish, spotted with white; rest of under parts white. In the summe plumage the male resembles the female but has the upper parts more glossed, and the spots on the breast reddish instead of white.

Hab. Eastern Siberia, Japan, Corea on passage; resident in central and southern China, Formosa.

Frequents rivers and lakes; nests in hollow trees like the American *Æx sponsa*, and deposits pale yellowish eggs, which measure about 2·08 by 1·57.

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ANAS, Linn., 1766.

842. Wild Duck.

ANAS BOSCAS.

Anas boscas, Linn. Syst. Nat. i. p. 205 (1766); Naum. xi. p. 575, Taf. 300; Audubon, B. Am. vi. p. 236, pl. 385; Gould, B. of E. v. pl. 361; id. B. of Gt. Brit. v. pl. 15; Hewitson, ii. p. 407, pl. cxiii. fig. 3; Dresser, vi. p. 469, pl. 422; Salvadori, Cat. B. Br. Mus. xxvii. p. 189; Tacz. F. O. Sib. O. p. 1129; Blanf. F. Brit. Ind. Birds, iv. p. 435; Saunders, p. 423; Lilford, vii. p. 86, pl. 33; Ridgway, p. 91.

Canard sauvage, French; *Pato real*, Portug. and Span.; *Germano real*, Ital.; *Stockente*, German; *Wilde Aant*, Dutch; *Stokand*, Dan. and Norweg.; *Gräsand*, Swed.; *Stuora-vuojas*, *Selsinä*, Lapp.; *Sinisorsa*, Finn.; *Kräkushka*, Russ.; *Bat*, Arab.; *Zerok el ras*, Moor.; *Nilsir*, *Nir-rugi*, Hindu.; *Ma-gamo*, Jap.

♂ *ad.* (England). Head and neck deep glossy green, darker on the fore-crown; a white ring round the middle of the neck, interrupted behind; scapulars and fore-back grey, vermiculated with brown; middle of back dark brown with fulvous margins; rump and four central recurved tail-feathers purplish black; rest of tail and quills brownish grey with whitish margins, speculum on secondaries greenish purple margined above and below with white; forepart of breast deep chestnut-red; rest of under parts greyish white narrowly barred with brown; under tail-coverts purplish black; bill dull yellowish olive; legs and feet reddish orange; iris brown. Culmen 2·6, wing 10·5, tail 4·0, tarsus 1·85 inch. In the summer season a plumage resembling that of the female but darker is donned for about 10 to 12 weeks. The female is brown above, marked with buff, the sides of the head paler, the chin and throat plain brownish buff, the tail-feathers brown, straight, and the under parts buff marked with brown, the upper breast browner.

Hab. Europe, north to Lapland where it is rare, south to the Mediterranean; the Canaries, Madeira, and Azores; north Africa; Asia east to Japan, north to Kamchatka, south to central India; North America, south to Mexico.

Is a shy and wary bird, flies swiftly and with ease, and walks well. It feeds by night on seeds, roots, worms, mollusca, insects, and though more frequently to be found on freshwaters, it is occasionally to be met with on the sea-coast. It breeds from early in March to late in May, its nest, which is a somewhat scanty structure of twigs and grass, well lined with down, is usually placed on the ground near water, though sometimes

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in a hollow tree, or the deserted nest of some large bird. The eggs from 7 to 12 or even 15 are dull greenish grey, and measure about 2·29 by 1·61.

843. Ring-billed Duck.

ANAS ZONORHYNCHA.

Anas zonorhyncha, Swinhoe, Ibis, 1866, p. 394; David and Oust. Ois. Chine, p. 496; Seebohm, B. Jap. Emp. p. 243; Salvadori, Cat. B. Br. Mus. xxvii. p. 211; Tacz. F. O. Sib. O. p. 1133; *A. pœcilorhyncha*, Temm. and Schleg. Faun. Jap. Aves. p. 126, pl. 82 (nec. Forst).

Kari-gamo, Jap.

♂ *ad.* (Japan). Not unlike the female *A. boscas*, but has a superciliary stripe; sides of the head and throat whitish, the rump and upper tail-feathers uniform dark brown; lower neck and upper breast dull whitish buff with dusky centres to the feathers; lower breast and abdomen brown, the under tail-coverts blackish brown; speculum glossy blue with a greenish tinge; bill black with the apical portion, except the tip of the nail, yellow; legs and feet light bright red; iris yellowish brown. Culmen 2·2, wing 11·6, tail 4·8, tarsus 1·75 inch. Sexes alike.

Hab. Mongolia, Dauria, China, Corea, Japan, and the Kurile Islands.

In its habits it is said to resemble *A. boscas*. It breeds in South-east Mongolia, northern China and Japan in May or early in June, nesting on the ground, and depositing 5 to 6 eggs, which are ivory-white and measure about 2·13 by 1·55.

CHAULELASMUS, Gray apud Bp., 1838.

844. Gadwall.

CHAULELASMUS STREPERUS.

Chaulelasmus streperus (Linn.), Syst. Nat. i. p. 200 (1766); (Naum.), xi. p. 659. Taf. 302; figs. 1, 3; (Hewitson), ii. p. 402, pl. cxiii. fig. 1; (Gould), B. of E. v. pl. 366; id. B. of Gt. Brit. v. pl. 19; Dresser, vi. p. 487, pl. 424; David and Oust. Ois. Chine, p. 499; (Audubon), B. Am. vi. p. 254, pl. 388; Salvadori, Cat. B. Br. Mus. xxvii. p. 221; Tacz. F. O. Sib. O. p. 1154; Blanf. F. Brit. Ind. Birds, iv. p. 440; (Seebohm), B. Jap. Emp. p. 242; Saunders, p. 425; (Lilford), vii. p. 87, pl. 34; (Ridgway), p. 95.

Chipeau bruyant, French; *Frisada*, Portug.; *Trigali, Pato castellano*, Span.; *Canapiglia*. Ital.; *Schnatterente*, German; *Kraakeend*, Dutch; *Snadderand*, Dan.; *Snatterand*, Swed.;

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Serucha, Russ.; *Samari*, Arab.; *Mila*, *Bhuar*, Hindu.; *Okayoshi*, Jap.

♂ *ad.* (Holland). Crown and nape dark reddish brown; head and neck dull brownish white all narrowly barred; back dark slaty with undulating white cross-bars; lower back, rump, and upper tail-coverts black; tail and quills ashy brown; alar patch white; larger wing-coverts black, median chestnut-red, the lesser grey marbled with sandy brown; elongated inner secondaries and scapulars dull light brown; breast and flanks blackish with transverse white lines; under tail-coverts jet black; bill blackish along the ridge of the upper mandible, otherwise dirty yellow; legs dirty yellow, webs blackish; iris dark brown. Culmen 1·9, wing 10·4, tail 4·0, tarsus 1·55 inch. The female has the crown and nape blackish brown finely striated with pale rufous; back, scapulars, rump, and upper tail-coverts blackish brown margined and marked with rufous; wing-coverts grey tipped with dull white, the larger marked with rufous; speculum white; chin and upper throat white; neck, breast, and flanks dark brown, the former margined with rufous, the last with rufous grey; middle of abdomen dull white; under tail-coverts whitish spotted with brown. In the summer the male assumes a dress much like that of the female, bnt the wings and tail are as above described.

Hab. Europe generally, north to Iceland and central Scandinavia; comparatively rare in Great Britain; northern Africa in winter and is said to have occurred as far south as the Orange River; Asia north to Kamchatka, east to Japan, and south in winter to India and China; North America, south to the West Indies and Mexico in winter.

In habits it resembles *Anas boscas* and is essentially a fresh-water duck, feeding chiefly on vegetable matter, but it is also known to eat aquatic insects, small shell-fish, frogs, etc. It breeds in temperate latitudes making a nest like that of *A. boscas*, placed near the water and usually in May, deposits 8 to 13 eggs, pale creamy yellow in colour, and in size averaging about 2·10 by 1·50.

SPATULA, Boie, 1822.

845. Shoveller.

SPATULA CLYPEATA.

Spatula clypeata (Linn.), Syst. Nat. i. p. 200 (1766); (Naum.), xi. p. 747, Taf. 306; (Hewitson), ii. p. 400, pl. cxii. fig. 2; (Gould), B. of E. v. pl. 360; id. B. of Gt. Brit. v. pl. 14; Dresser, vi. p. 497, pl. 425; (Audubon), B. Am. vi. p. 293, pl. 394; Salvadori, Cat. B. Br. Mus. xxvii. p. 306; Tacz. F. O. Sib. O. p. 1151; Blanf. F. Brit. Ind. Birds, iv. p. 452; Ridgway, p. 97; Saunders, p. 427; (Lilford), vii. p. 90, pl. 35.

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Souchet, French; *Pato trombeteiro*, Portug.; *Pato cuchareta*, Span.; *Cucchiarone*, Ital.; *Löffelente*, German; *Slobeend*, Dutch; *Skéand*, Dan.; *Skovland*, Norweg.; *Skedand*, Swed.; *Lapasorsa*, Finn.; *Schirokonoska*, *Ootka soksoon*, Russ.; *Tidari*, *Punana*, Hindu.; *Hashibiro-gamo*, Jap.

♂ *ad.* (England). Head and upper neck black glossed with bottle-green and purple; hind-neck and back blackish brown with dull white margins, the rump and upper tail-coverts imperceptibly edged with dull fulvous; lower neck and scapulars white; middle tail-feathers brownish grey edged with whitish, the rest dull white with dark centres; wing-coverts sky-blue, the last row tipped with white; speculum bright metallic green narrowly tipped with white; under parts rich rufous; under tail-coverts creamy yellow marbled with brown; a white patch on each side of the base of the tail; bill black, very broad towards the end; legs and feet bright orange; iris yellow. Culmen 2·9, wing 9·0, tail 3·1, tarsus 1·3 inch. The female has the head, neck, and upper parts dark brown with clay-yellow or clay-brown margins; under parts dull clay with dark spots on the breast and flanks; wings as in the male but much duller, the wing-coverts only washed with bluish. In the summer the male assumes a dress like the female but darker, and the blue on the wings and green speculum are retained.

Hab. Europe generally, north to the Arctic circle; North Africa, in winter south to Somaliland and Casamance; Asia east to Japan, north to Kamchatka, south to Southern China, India and Ceylon in winter; North America from Alaska to Mexico, in winter ranging as far south as Panama.

Is a fresh-water duck, though not unfrequently to be seen on the sea-coast; it feeds principally on the seeds of various aquatic plants and vegetable matter, aquatic insects, grain, etc. Usually it is not so shy as *Anas boscas*, and is as a rule a silent bird, but in the breeding season its note *took*, *took*, may be heard. It breeds in May, June, and July, its nest being a depression in the soil near water, lined with grass and down. Its eggs, 8 to 14 in number, are pale greenish grey, sometimes greyish cream, and measure about 2·0 by 1·37.

MARMARONETTA, Reichenb., 1852.

846. Marbled Duck.

MARMARONETTA ANGUSTIROSTRIS.

Marmaronetta angustirostris (Ménétr.), Cat. Rais. p. 58 (1832); (Gould), B. of E. v. p. 373; (Dresser), vi. p. 479, pl. 423; Salvadori, Cat. B. Br. Mus. xxvii. p. 321; Blanf. F. Brit. Ind. Birds, iv. p. 454.

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Ruhilla, *Roseta*, Span.; *Garganella marmorata*, Ital.; *Oozonosòi-tchirok*, Russ.; *Chihil*, Moor.

♂ *ad.* (Spain). Head greyish brown barred with dark brown, the region round the eye dark brown; upper parts dull brown tinged with grey, mottled and marbled with light greyish brown; quills ashy grey; secondaries pale creamy brown; wing-coverts brownish grey; tail ashy brown tipped with creamy buff; under parts greyish white, the sides of head, throat, and neck finely striped with brown, the breast barred, and flanks barred and marbled with greyish brown; under tail-coverts pale buff indistinctly barred; bill bluish grey, black on culmen and tip; legs dusky olive; iris brown. Culmen 1·8, wing 7·9, tail 3·2, tarsus 1·2 inch. Female similar but duller.

Hab. Southern Europe, North Africa, Canaries, South-west Asia, east to Northern India.

In habits this Duck resembles the Teal, and like that bird feeds on vegetable matter, crustacea, insects, and worms; its note is a low croaking whistle. Its nest is constructed of twigs and bents, lined with down, and is placed on the ground near water, usually under a bush, and its eggs 8 to 14 in number are usually laid in May, and are cream-coloured like those of *Q. crecca* and measure about 1·86 by 1·34.

EUNETTA, Bonap., 1856.

847. Falcated Teal.

EUNETTA FALCATA.

Eunetta falcata (Georgi), Reis. Russ. Reich. i. p. 167 (1775); (Naum.), xiii. Taf. 389, fig. 1; (Dresser), vi. p. 525, pl. 429; David and Oust. Ois. Chine, p. 504; Salvadori, Cat. B. Br. Mus. xxvii. p. 218; Blanf. F. Brit. Ind. Birds, iv. p. 438; (Tacz.), F. O. Sib. O. p. 1135; (Seebohm), B. Jap. Emp. p. 245.

Kossatii-Sselesen, *Kossatka*, Russ.; *Yoshi-gamo*, Jap.

♂ *ad.* (Siberia). Crown chestnut-red; a band round the nape and the long nuchal crest metallic green; throat white, below which is a green collar followed by another of white; upper parts vermiculated with greyish brown and white; lower back dark brown, indistinctly vermiculated with grey; upper tail-coverts very long and black; tail greyish brown; wing-coverts clear grey, the larger white at the tip; speculum metallic green; inner secondaries very long, sickle-shaped, black, glossed with green, the shafts and external margins whitish; under parts white vermiculated and barred with grey; under tail-coverts long, black; on

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each side of the tail a cream-coloured patch ; bill blackish ; legs dull blue-grey ; iris brown. Culmen 1·8, wing 10·0, tail 3·0, tarsus 1·35 inch. The female is smaller, has the head and neck purplish brown striped with whitish ; upper parts rufous or fulvous varied with brown ; wings as in the male, but the inner secondaries not elongated ; upper breast rufous with purplish brown cross-markings ; rest of under parts fulvous indistinctly mottled with brown. After the breeding season the male assumes a dress not unlike that of the female.

Hab. Northern Asia, north to Kamchatka, in winter migrating south to China and India; Japan ; of accidental and rare occurrence in Europe.

The present species is a frequenter of fresh-water and in general habits resembles *Q. crecca*. It feeds chiefly on vegetable matter and consorts with the Baikal Teal, the Wild Duck, and Pintail. Its nest is placed on the ground usually near water, and its eggs, 7 to 10 in number, are usually deposited in May and resemble those of *Q. crecca* being pale creamy, smooth in texture, and measure about 2·19 by 1·54.

QUERQUEDULA, Stephens, 1824.

848. Garganey.

QUERQUEDULA CIRCIA.

Querquedula circia (Linn.), Syst. Nat. i. p. 204 (1766) ; Gould, B. of E. pl. 364 ; id. B. of Gt. Brit. v. pl. 17 ; Dresser, vi. p. 513, pl. 427 ; David and Oust. Ois. Chine, p. 532 ; Salvadori, Cat. B. Br. Mus. p. 293 ; Blanf. F. Brit. Ind. Birds, iv. p. 449 ; Saunders, p. 435 ; (Lilford), vii. p. 98, pl. 39 ; *A. querquedula*, Linn. Syst. Nat. i. p. 203 (1766) ; Naum. xi. p. 677, Taf. 303 ; Hewitson, ii. p. 409, pl. cxiv. fig. 1 ; Tacz. F. O. Sib. O. p. 1145.

Sarcelle d'été, French : *Marreco, Marrequinho*, Portug. ; *Patito, Cerceta*, Span. ; *Marzajola*, Ital. ; *Knäkente*, German ; *Zomertaling*, Dutch ; *Atlingand*, Dan. ; *Knœand*, Norweg. ; *Årta*, Swed. ; *Heinätavi*, Finn. ; *Tchirok-tres-kuntschik*, Russ. ; *Arasch*, Arab. ; *Chaitwa, Khira*, Hindu. ; *Shima-haji*, Jap.

♂ *ad.* (Denmark). Forehead dull chestnut marked with white, the crown and nape dark brown ; a white stripe from the eye to the nape ; sides of face and neck dark chestnut streaked with white ; back brown washed with ashy blue, the lower back bluer and irregularly barred with white ; tail dark brown with narrow white margins ; wing-coverts clear blue-grey ; alar speculum green, on each side bordered with white ; elongated inner secondaries lavender-grey with black and white stripes

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along the feathers; breast sandy brown with crescentic blackish bars; lower breast and belly whitish, the flanks, vent, and under tail-coverts vermiculated and spotted with dark brown; on each side of the vent a greyish patch; bill blackish, at the base below flesh-coloured; legs brownish plumbeous; iris brown. Culmen 1·5, wing 7·7, tail 3·1, tarsus 1·1 inch. Female, general colour brown darker on the head, the feathers on upper parts margined with sandy brown and fulvous white; wing-coverts dull ashy grey, and the green speculum absent; streak from the eye, malar region, and throat buffy white; sides of head and lower neck streaked with brown; breast rusty brown marked with white; rest of under parts buffy white, the flanks mottled with brown. After the breeding season the male assumes a dress like that of the female, but retains the green speculum and lavender-blue wing-coverts.

Hab. Europe generally, from below the Arctic circle to the Mediterranean; North Africa in winter south to Somaliland; Asia east to Japan, north to Kamchatka, south in winter to India, Ceylon, Borneo, Java, Celebes, and Ceram.

Frequents fresh-water, but seldom being found on the sea-coast, and feeds on vegetable substances, worms, insects, and larvæ, occasionally on small frogs and fish; its note is a harsh *knack*. It breeds in April or May, its nest being a mere depression in the ground in a morass, meadow, or in a reed-bed, and composed of rushes and dried grass mixed with down. Its eggs, 8 to 12 or 13 in number, are rather deeper creamy yellow than those of the Teal and measure about 1·87 by 1·35.

849. Blue-winged Teal.

QUERQUEDULA DISCORS.

Querquedula discors (Linn.), Syst. Nat. i. p. 205 (1766); (Wilson), Am. Orn. viii. p. 74, pl. 68, fig. 4; (Audub.), B. Am. vi. p. 287, pl. 393; Salvadori, Cat. B. Br. Mus. xxvii. p. 299; Ridgway, p. 93; Saunders, p. 434; (Lilford), vii. p. 100, pl. 40.

♂ *ad.* (N. America). May always be distinguished by having the head and neck dull plumbeous, the crown dusky, the sides of the occiput glossed with metallic lavender-purple; a crescent-shaped patch of white in front of the eye; wing-coverts rich blue; speculum green with a white bar above; under parts pale chestnut spotted with black; bill black; legs and feet yellowish; iris brown. Culmen 1·75, wing 7·2, tail 3·25, tarsus 1·25 inch. The female has the upper parts dusky varied with buffy white, the under parts dull buff, the chin and upper throat unstreaked, the rest of the head and neck streaked with dusky, the speculum dull greyish brown. In the summer the male like all its allies assumes a dress like that of the female, but retains the brighter colours on the wings.

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Hab. North America generally, chiefly east of the Rocky Mountains, ranging south in winter through the whole of the West Indies and Central America to Ecuador.

In its general habits it does not appear to differ from the Garganey, and its nest and eggs resemble those of that species. It is only a very rare straggler to Europe, and has occurred once in Denmark, and at least once in Scotland.

NETTION, Kaup, 1829.

850. The Teal.

NETTION CRECCA.

Nettion crecca (Linn.), Syst. Nat. i. p. 204 (1766); (Naum.) xi. p. 701, Taf. 304; (Hewitson), ii. p. 410, pl. cxiv. fig. 2; (Gould), B. of E. v. pl. 362; (id.), B. of Gt. Brit. v. pl. 16; (Dresser), vi. p. 507, pl. 426; (David and Oust.) Ois. Chine, p. 502; Salvadori, Cat. B. Br. Mus. xxvii. p. 243; (Tacz.), F. O. Sib. O. p. 1141; (Blanf.), F. Brit. Ind. Birds, iv. p. 443; (Seebohm), B. Jap. Emp. p. 244; Saunders, p. 431; (Lilford). vii. p. 94, pl. 37.

Sarcelle d'hiver, French; *Marreco*, Portug.; *Cerceta*, Span.; *Alsavola*, Ital.; *Krückente*, German; *Wintertaling*, Dutch; *Krikand*, Dan. and Norweg.; *Krickan*, Swed.; *Giksa*, Lapp.; *Tavi*, Finn.; *Tschirisk*, Russ.; *Kerkedj*, Arab.; *Chota-Murghabt*, *Kerra*, Hindu.; *Ko-gamo*, Jap.

♂ *ad.* (England). Crown, nape, sides of neck and throat deep chestnut; sides of head glossy green, above and below margined with whitish; chin blackish; back grey vermiculated with black and white; upper tail-coverts black narrowly margined with fulvous; elongated scapulars black and white; speculum metallic green; under parts whitish vermiculated with black on the lower breast and flanks, and indistinctly on the abdomen; upper breast spotted with black; under tail-coverts black; whitish along the edge, with a cream-coloured patch on each side; bill blackish; legs and feet brownish grey; iris brown. Culmen 1·55, wing 7·0, tail 2·7, tarsus 0·8 inch. Female blackish brown mottled with reddish brown above; under parts whitish mottled with brown and rufous on the upper breast and flanks; a loral spot and throat clear buff; wings duller than in the male. The male assumes a plumage like that of the female in the summer.

Hab. The whole of Europe, north to Northern Lapland and Iceland, rare in Greenland; Canaries; Azores; North Africa in winter, south to Abyssinia; Asia east to Japan, north to

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Kamchatka, south in winter to China, India, and Ceylon; of occasional occurrence in eastern North America.

Is essentially a fresh-water Duck, only found on salt-water in exceptional cases. It feeds at night on vegetable substances, grain, seeds, worms, and slugs, &c. Its nest is placed on the ground, amongst grass, frequently under a bush, and is composed of bents and down. The eggs from 8 to 10, occasionally as many as 15, are deposited in May and are yellowish white like old ivory and measure about 1·78 by 1·31.

851. American Teal.

NETTION CAROLINENSE.

Nettion carolinense (Gmel.), Syst. Nat. i. p. 533 (1778); (Audub.), B. Am. vi. p. 281, pl. 392; Salvadori, Cat. B. Br. Mus. xxvii. p. 250; Ridgway, p. 94; Saunders, p. 433; (Lilford), vii. p. 96, pl. 38.

♂ *ad.* (N. America). Differs from *N. crecca* in wanting the striped scapulars and in having a broad whitish crescentic band on each side of the breast, and the vermiculations in the plumage are much finer. The female closely resembles that of *N. crecca*.

Hab. North America, breeding usually north of the United States, migrating in winter south to the West Indies, Mexico, and Honduras; Greenland; of rare occurrence in Europe but has been obtained at least twice in Great Britain.

In habits and nidification it does not differ from *N. crecca*, and its eggs resemble those of that species, and in size average 1·76 by 1·30.

852. Baikal Teal.

NETTION FORMOSUM.

Nettion formosum (Géorgi), Reis. Russ. Reich. p. 168 (1775); (Temm. and Schlegel), Faun. Jap. Aves, p. 127, Tabb. 82B and C; (Dresser), vi. p. 521, pl. 428; (David and Oust.) Ois. Chine, p. 503; Salvadori, Cat. B. Br. Mus. xxvii. p. 240; (Tacz.) F. O. Sib. O. p. 1138; Blanf. F. Brit. Ind. Birds, iv. p. 442; *A. glocitans*, Pall. Acta. Holm. xl. p. 33, Tab. i. (1779); (Gould), B. of E. pl. 363.

Klokuschka, Moklok, Mokloschka, Russ.; *Aji*, Jap.

♂ *ad.* (Siberia). Crown, hind-neck, throat, and a band across the face black; face and sides of neck buff margined with white; crown behind the eye bordered with white; a crescentic green band from behind the eye round the nape; back blue-grey finely vermiculated with black and white;

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quills and tail dark brown; elongated scapulars, black down the middle, white on the inner, and rufous on the outer web; wing-coverts brown, the larger edged with rufous; speculum greenish bronze near the coverts, then black with white tips; breast brownish vinous spotted with black; abdomen buffy whitish; flanks like the back; vent and under tail-coverts black, the latter bay on the sides, the longer ones tipped with white; bill dark bluish brown; legs and feet greyish blue, the webs darker; iris reddish brown. Culmen 1·5, wing 8·5, tail 3·6, tarsus 1·0 inch. The female is not unlike that of *N. crecca*, but is larger, has the speculum as in the male, but duller, and a buff spot on each side of the head in front of the lores and one under each eye.

Hab. Northern Asia, chiefly eastern Siberia, west to the Yenesei, north to Kamchatka, migrating south to Mongolia, Corea, Japan, China, and rarely to India; of accidental occurrence in Europe, having been twice obtained in France, and once in Italy.

In habits it is said to resemble *N. crecca*, but is much more noisy, and when on passage its deep cluckling call-note *klo, klo, klo*, may be heard at a considerable distance. It breeds in North-eastern Siberia, the nest being placed on the ground, on the river-banks under willow-bushes. The eggs 7 to 8 in number are deposited late in June or early in July, resemble those of *N. crecca*, but have a faint olivaceous tinge, and measure about 1·85 by 1·33.

DAFILA, Leach, 1824.

853. PINTAIL.

DAFILA ACUTA.

Dafila acuta (Linn.), Syst. Nat. i. p. 202 (1766); (Naum.), xi. p. 638, Taf. 301; (Hewitson), ii. p. 403, pl. cxiii. fig. 2; Gould, B. of Gt. Brit. v. pl. 18; David and Oust., Ois. Chine, p. 498; Dresser, vi. p. 531, pls. 430, 431; Salvadori, Cat. B. Br. Mus. xxvii. p. 270; Blanf. F. Brit. Ind. Birds, iv. p. 447; Tacz. F. O. Sib. O. p. 1147; Saunders, p. 429; (Lilford), vii. p. 92, pl. 36; Ridgway. p. 98; (Seebohm), B. Jap. Emp. p. 246; *D. caudacuta* (Pall.), Zoogr. Ross. As. ii. p. 280 (1811); Gould, B. of E. v. pl. 365.

Pilet, French: *Rabijunco*, Portug.; *Pato-careto*, Span.; *Codone*, Ital.; *Spiessente*, German; *Pijlstaart*, Dutch; *Spidsand*, Dan. and Norweg.; *Stjertand*, Swed.; *Vuojas*, Lapp.; *Jouhisuorsa*, Finn.; *Schilochvost*, Russ.; *Bulbul*, Arab.; *Sanh, Sink-par*, Hindu.; *Ô-naga-gamo*, Jap.

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♂ *ad.* (England). Crown and nape dark umber-brown with paler margins; sides of head, chin, and fore-neck reddish brown with faint purplish reflections; hind-neck blackish brown glossed with green; lower hind-neck and upper parts white vermiculated with black, the rump and upper tail-coverts barred and marbled with brown; middle tail-feathers blackish brown, elongated, and pointed, the outer one and quills dark grey, the former tipped with white; alar speculum metallic green with a ferruginous bar above and a white one below; elongated alar feathers black margined with white; a long line on each side of the neck and breast white; under parts white; flanks like the back; lower abdomen indistinctly barred with greyish brown; crissum and under tail-coverts black; beak blackish, the sides dull plumbeous; legs and feet greyish black; iris orange-brown. Culmen 2·2, wing 11·2, tail 7·5, tarsus 1·6 inch. The female has the head and nape reddish brown the rest of the head and neck yellowish white all lineated with dark brown; the upper parts dark brown edged and marked with dirty white, the under parts yellowish white marked with brown; no speculum but with two white bars across the wings. In the summer the male assumes a dress much like that of the female but retains the speculum.

Hab. Europe generally, breeding in the north as far as northern Lapland, migrating south in winter to North Africa; Asia, east to Japan, north to about 71° N. Lat., south in winter to Mongolia, China, India, and Ceylon; North America from Alaska, south to Cuba and Panama.

In general habits it much resembles *A. boscas*, and is a fresh-water duck, feeding on aquatic plants, seeds, tender shoots, roots, insects, and their larvæ, but may also be met with off the sea-coasts. Its note is soft and is not so high-pitched as that of its allies, nor is it a noisy bird. It breeds rather later than *A. boscas*, its nest being a depression in the ground, not far from water and usually under a bush, lined with small flags, grass-bents, and down. The eggs 7 to 9 in number are dull greenish grey, rather elongated in shape, and measure about 2·9 by 1.45.

MARECA, Stephens, 1824.

854. Wigeon.

MARECA PENELOPE.

Mareca penelope (Linn.), Syst. Nat. i. p. 202 (1766); (Naum.) xi. p. 724, Taf. 305; Hewitson, ii. p. 412, pl. cxiv. fig. 3; Gould, B. of E. v. pl. 359; id. B. of Gt. Brit. v. pl. 13; Dresser, vi. p. 541, pls. 432, 433; David and Oust. Ois. Chine, p. 499; Salvadori, Cat. B. Br. Mus. xxvii. p. 227; Blanf. F. Brit. Ind. Birds, iv. p. 445; Tacz. F. O. Sib. O. p. 1156; Ridgway, p. 96; Saunders, p. 437; Lilford. vii. p. 101. pl. 41.

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Canard siffleur, French; *Assobiadeira*, Portug.; *Pato-florentino*, Span.; *Fischione*, Ital.; *Pfeifente, Blässente*, German; *Smient*, Dutch; *Pibeand, Blisand*, Dan.; *Brunnakke*, Norweg.; *Bläsand*, Swed.; *Snartal*, Lapp.; *Haapana*, Finn.; *Swijas, Swestun*, Russ.; *Peasan, Patari*, Hindu.; *Hidori*, Jap.

♂ *ad.* (England). Forehead and fore-crown warm ochreous; rest of head and neck rich rusty red; region round and behind the eye, front of throat, lower neck, and nape marked with green; upper parts and flanks white vermiculated with black; wing-coverts greyish brown and white; speculum green; elongated alar feathers blackish grey on the inner and black margined with white on the outer web; upper breast pinky vinous; under parts white; under tail-coverts black; beak blue-grey, the tip black; legs plumbeous; iris reddish brown. Culmen 1·55, wing 10·2, tail 4·8, tarsus 1·55 inch. The female has the head and neck greyish ochreous striped with black; upper parts dull brown with whitish margins; speculum absent; under parts white, the breast marked with reddish brown, the under tail-coverts with greyish brown. In the late summer the male resembles the female but the head and neck are dull chestnut spotted with black; no buff patch; wings as above but the wings-coverts are ashy grey; upper breast and flanks rusty brown.

Hab. Europe generally, breeding in the high north, migrating in winter to Africa, as far south as Abyssinia, and Madeira; Asia north to Kamchatka, east to Japan, and south in winter to China, India, and Borneo; of occasional occurrence in Eastern North America and more frequent in Alaska.

Resembles the Teal in its choice of habitat, and though also found on the sea-coast usually frequents quiet bays, inlets, and mud-banks. It feeds on vegetable substances, aquatic insects, crustaceans, &c. and does not dive in search of food. Its whistling note is very frequently to be heard, especially at night. It breeds both near water and at some distance from it, its nest being a depression in the ground lined with down and a few grass-bents and moss. The eggs which are deposited in May or early in June are creamy white and measure about 2·27 by 1·55.

855. American Wigeon.

MARECA AMERICANA.

Mareca americana (Gmel.), Syst. Nat. i. p. 526 (1788); (Audub.), B. Am. vi. p. 259, pl. 389; Dresser, ix. p. 289, pl. 707; Salvadori, Cat. B. Br. Mus. xxvii. p. 233; Tacz. F. O. Sib. O. p. 1160; Ridgway, p. 96; Saunders, p. 439; Lilford, vii. p. 104, pl. 42.

♂ *ad.* (N. America). Differs from *M. penelope* in having the crown and forehead white, unspotted, the head and neck dull white finely speckled

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with black; a broad space of metallic green extending from the eye to the occiput. Culmen 1·6, wing 10·55, tail 5·0, tarsus 1·45 inch. The female differs from that of *M. penelope* in having the pale parts of the head and neck whitish.

Hab. North America in general, breeding chiefly north of the United States; in winter south to Guatemala and Cuba; N. Iceland, where it breeds; has occurred two or three times in Britain.

In habits it does not differ from *M. penelope*, but is said to breed always some distance from water, under trees or bushes. The eggs resemble those of *M. penelope* and measure about 2·06 by 1·48.

ÆTHYIA, Boie, 1822.

856. Red-crested Pochard.

ÆTHYIA RUFINA.

Æthyia rufina (Pall.), Reise ii. App. p. 713, No. 28 (1773); (Naum.), xii. p. 7, Taf. 307; (Gould), B. of E. v. pl. 369; (id.), B. of Gt. Brit. v. pl. 22; (Dresser), vi. p. 559, pl. 435; (Salvadori), Cat. B. Br. Mus. xxvii. p. 328; (Blanford), F. Brit. Ind. Birds, iv. p. 456; (Saunders), p. 441; (Lilford), vii. p. 106, pl. 43.

Canard siffleur huppé, French; *Sivert*, Span.; *Germano turco*, Ital.; *Kolbenente*, German; *Nyrok krasnonosyi*, Russ.; *Lál-chonch*, *Lál-sir*, Hindu.

♂ *ad.* (S. Russia). Head crested; head and upper neck rusty red with a pink tinge, the crown paler; hind and lower neck and upper breast black; middle of back brown, the scapulars paler and reddish; rump and upper tail-coverts blackish brown; tail and quills dark ashy grey; secondaries white with a subterminal greyish brown bar; elongated inner secondaries ashy grey; wing-coverts ashy brown; under parts blackish brown, the sides of the abdomen white; bill vermilion-red, the tip white; legs orange-red; iris reddish brown. Culmen 2·3, wing 10·8, tail 3·5, tarsus 1·6 inch. The female is greyish brown above, the scapulars paler; secondaries greyish white barred with brown towards the tip; throat, sides of head below the eye, neck, and under parts whitish; bill blackish with a pink tip; legs and feet pinkish, the webs blackish.

Hab. Southern Europe, rarely straying north as far as Great Britain and Denmark; North Africa; Southern Russia east to Turkestan, migrating in winter south to Northern and Central India.

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Frequents fresh-water lakes and marshes, and is extremely shy and wary; its call-note is harsh, not unlike the croak of a Crow, and its food consists of water-plants, aquatic insects, small shellfish, and fish or frog spawn. It breeds near fresh-water, placing its nest on the flags or ground, constructing it of dead stems of rushes or leaves lined with down, and in May deposits 7 to 9, occasionally 10 eggs which are greenish gray in colour and measure about 2·28 by 1·60.

857. Pochard.

ÆTHYIA FERINA.

Æthyia ferina (Linn.), Syst. Nat. i. p. 203 (1766); (Naum.), xiii. p. 21, Taf. 308; (Hewitson), ii. p. 433, pl. cxvii. fig. 2; Gould, B. of E. v. pl. 367; (id.), B. of Gt. Brit. v. pl. 20; (Dresser), vi. p. 551, pl. 434; David and Oust. Ois. Chine, p. 506; (Salvadori), Cat. B. Br. Mus. xxvii. p. 335; (Tacz.), F. O. Sib. O. p. 1162; (Blanf.), F. Brit. Ind. Birds, iv. p. 458; (Saunders), p. 443; (Lilford), vii. p. 107, pl. 44; (Seebohm), B. Jap. E. p. 254.

Milouin, French; *Tarrantana*, Portug.; *Cabezon*, Span.; *Moriglione*, Ital.; *Tafelente*, German; *Tafeleend*, Dutch; *Taffel-and*, Dan. and Norweg.; *Brunand*, Swed.; *Punasotka*, Finn.; *Rijegolovka*, *Krasnogolovoi-Nyrok*, Russ.; *Aurár-nar*, Hindu; *Hoshihajiro*, Jap.

♂ *ad.* (England). Head and upper neck coppery red; lower neck, upper back, upper breast, rump, upper and under tail-coverts black; upper parts otherwise white vermiculated with black; quills brown tipped with blackish; tail blackish brown tinged with grey; speculum greyish; under parts white indistinctly vermiculated with blackish; bill black with a broad band of dull light blue; legs plumbeous; iris bright yellow. Culmen 2·2, wing 8·4, tail 2·8, tarsus 1·45 inch. The female has the head and neck dull reddish brown, the base of the bill, chin, and upper throat dirty white; sides of head marked with dirty white; back dark brown with a few greyish white feather-tips and vermiculated with blackish; breast dark reddish brown with a few whitish margins; abdomen white, the lower part and under tail-coverts brownish grey. In the late summer the male resembles the female, but the head and neck are redder, the back more marked with white and more clearly vermiculated.

Hab. Europe generally, north to Central Sweden; rare in Iceland; the British Islands, South Europe, and North Africa in winter; Canaries; Asia east to Japan, north to Southern Siberia, south to Northern India in winter; in America it is replaced by a very closely allied form *Æ. americana*, Bp.

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Is an expert diver and obtains its food to some extent inland, but chiefly under the surface of the water, feeding chiefly on vegetable substance, but also, it is said, on aquatic insects. As a rule it is a somewhat silent bird, and its call-note is a low *rerrr-rerrr-a*. Its nest is a mere hollow in the ground near water lined with grass-bents and down, and the eggs 7 to 10, sometimes 12 in number, are usually deposited early in June, are greenish grey, sometimes with a faint buff tinge, and measure about 2·38 by 1·65.

858. Scaup Duck.

ÆTHYIA MARILA.

Æthyia marila (Linn.), Syst. Nat. i. p. 196 (1766); (Naum.), xii. p. 88, Taf. 311; (Hewitson), ii. p. 426, pl. cxvii. fig. 3; (Gould), B. of E. v. pl. 371; (id.) B. of Gt. Brit. v. pl. 24; (Dresser), vi. p. 565, pl. 436; (David and Oust.) Ois. Chine, p. 507; (Salvadori), Cat. B. Br. Mus. p. 355; (Tacz.), F. O. Sib. O. p. 1164; (Blanf.), F. Brit. Ind. Birds, iv. p. 462; (Saunders), p. 449; (Lilford), vii. p. 112, pl. 46; (Ridgway), p. 103.

Canard milouinan, French; *Moretta-grigia*, Ital.; *Bergente*, German; *Toppereend*, Dutch; *Bjergand*, Dan. and Norweg.; *Bergand*, Swed.; *Stuora-fietag*, Lapp.; *Iso-sorrti Tunturi-sotka*, Finn.; *Sorovoi-Nyrok*, *Belogláska*, Russ.; *Nakihashiro-gamo*, Jap.

♂ *ad.* (N. Russia). Head, neck, forepart of back, breast, rump, upper and under tail-coverts, and tail black; head and upper neck glossed with bottle-green; upper parts white vermiculated and barred with black; speculum white tipped with black; under parts white, the lower abdomen faintly vermiculated with black; bill and legs light plumbeous; webs blackish; iris yellow. Culmen 1·85, wing 8·5, tail 2·8, tarsus 1·4 inch. The female has the forepart of the head and chin white; rest of the head, neck, and breast dark reddish brown; upper parts dark brown, the back slightly vermiculated with white; abdomen dull white, the flanks vermiculated with brown; crissum and under tail-coverts dark brown slightly vermiculated with white; bill and legs darker than in the male. The male in late summer resembles the female but the head and neck are blacker, the back more barred with dirty white, and the soft parts as above.

Hab. Europe generally, north to Lapland and Iceland; rare in Greenland; Southern Europe and North Africa in winter; Asia east to Japan, north to Kamchatka, south in winter to Northern India and China. The American form, *Æ. nearctica* (Stejn.) is said to differ in having the six inner quills without distinct white spaces on the inner webs.

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Is an expert diver, obtaining its food, which consists chiefly of small shellfish and minute crustacea and marine plants, chiefly by diving. It swims with ease and flies tolerably swiftly, usually not high above the surface of the water. It breeds in June or early in July, nesting on the ground under a bush, sometimes under a stone or in a hole, its nest generally consisting only of grass. Its eggs, 8 to 9, sometimes 11 in number, are greyish stone-buff and measure about 2·48 by 1·75. East Asiatic birds (*F. mariloides*, Vig.) are said to have sometimes a purple gloss on the head.

859. Tufted Duck.

ÆTHYIA FULIGULA.

Æthyia fuligula (Linn.), Syst. Nat. i. p. 207 (1766); (Naum.) xii. p. 64, Taf. 310; (Salvadori), Cat. B. Br. Mus. xxvii. p. 363; (Blanf.), F. Brit. Ind. Birds, iv. p. 463; (Ridgway), p. 103. *Æ. cristata* (Leach), Syst. Cat. M. and B. Brit. Mus. p. 39 (1816); (Hewitson), ii. p. 430, pl. cxviii. fig. 3; (Gould), B. of E. v. pl. 370; (id.) B. of Gt. Brit. v. pl. 23; (Dresser), vi. p. 573, pl. 437; (Seebohm), B. Jap. Emp. p. 355; (Tacz.), F. O. Sib. O. p. 1167; (Saunders), p. 447; (Lilford), vii. p. 113, pl. 47.

Morillon, French; *Negrella*, Portug.; *Coquinero*, Span.; *Moretta*, Ital.; *Haubenente*, *Schopfente*, German; *Kuifeend*, Dutch; *Topand*, Dan. and Norweg.; *Vigg*, Swed.; *Ucib-fietag*, Lapp.; *Picni-sorrti Jouhisotka*, Finn.; *Tschernett*, Russ.; *Dubaru*, *Ablak*, Hindu.; *Kinkurohajiro-gamo*, Jap.

♂ *ad.* (England). Head, neck, upper parts and wings, breast and under tail-coverts black; head with a long crest and glossed with purple; speculum white tipped with black; a few indistinct vermiculations on the back; under parts white, the lower abdomen washed with grey; bill plumbeous tipped with black; legs dull olive-plumbeous the webs blackish; iris yellow. Culmen 1·8, wing 8·2, tail 2·8, tarsus 1·5 inch. The female has the head, neck, breast, and upper parts blackish brown with a faint purplish gloss; under parts brownish grey; forehead tinged with brownish white; crest very short. In the late summer the plumage of the male is browner on the head and neck, the back and lower neck indistinctly powdered with greyish white; crest shorter than in the spring.

Hab. Europe generally, north as far as Lapland; Southern Europe and North Africa in winter, ranging south to Abyssinia; Asia east to Japan, north to Kamchatka, south in winter to China and India, and of accidental occurrence in the Malay Archipelago and Polynesian Islands.

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In general habits it most nearly resembles the Scaup Duck. In the summer it frequents fresh-water and then feeds chiefly on vegetable matter, aquatic insects, frogs, &c., and in the winter it is found chiefly on the sea-coast, and then feeds on small shellfish, &c., obtaining its food chiefly by diving. Its nest, which is placed on the ground, close to, or not far from water, is composed of grass-bents and a few leaves, matted together with sooty brownish black down with greyish white centres, and its eggs, usually 8 in number are deposited early in June, and are uniform pale olive-green or greenish buff, smooth in texture of shell and measure about 2·31 by 1·65.

860. White-eyed Duck.

ÆTHYIA NYROCA.

Æthyia nyroca (Güld.), Nov. Comm. Petrop. xiv. p. 403 (1769); (Naum.), xii. p. 41, Taf. 309; (Saunders), p. 445; (Lilford), vii. p. 109, pl. 45; *Æthyia ferruginea* (Gmel.), Syst. Nat. i. p. 528 (1788); Dresser, vi. p. 581, pl. 438; Blanf. F. Brit. Ind. Birds, iv. p. 460; *Æ. africana*, (Gmel.), Syst. Nat. i. p. 522 (1788); (Salvadori), Cat. B. Br. Mus. xxvii. p. 345; *Æ. leucophthalma* (Bechst.), Orn. Taschenb. i. p. 450 (1802); (Gould), B. of E. v. pl. 368; (id.) B. of Gt. Brit. v. pl. 21.

Fuligule nyroca, French; *Zarro*, Portug.; *Pardote*, *Rochet*, Span.; *Moretta-tabaccata*, Ital.; *Moorente*, German; *Beloglasyi-Nyrok*, Russ.; *Ziriguil*, Moor.; *Karchiya*, *Burar-mada*, Hindu.

♂ *ad.* (*Volga*). Head, neck, and breast chestnut-red; a small spot at the base of the under mandible white; a blackish brown band round the lower neck; upper parts blackish brown; speculum white tipped with black; under parts white; flanks reddish brown; lower abdomen fulvous; beak and legs plumbeous; iris white. Culmen 1·6, wing 6·8, tail 2·3, tarsus 0·9 inch. The female is duller in colour, the feathers on the back and breast with pale tips; abdomen marked with brown.

Hab. Central and Southern Europe; of somewhat rare occurrence in Great Britain; Canaries; North Africa, south to Abyssinia; Western Asia, north to the Ob valley, east to Kashmir, south to Central India.

Frequents chiefly fresh water, but is also occasionally to be met with on the sea-coast in winter. Its food in summer consists chiefly of vegetable substances, but in winter of insects and their larvæ, crustacea, and mollusca. Its call-note resembles that of *Æ. ferina* but is not so loud. Its nest is placed on the

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ground, or on a tussock, sometimes in a bush 2 to 3 feet above the ground, always well concealed. Its eggs 7 to 12 in number are usually deposited in May and are yellowish or greyish buff and measure about 2·1 by 1·46.

861. Bær's Duck.

ÆTHYIA BÆRI.

Æthyia bæri (Radde), Reis. S. O. Sib. ii. p. 376, pl. 15 (1863); (David and Oust.), Ois. Chine, p. 509. pl. 124; (Seebohm), B. Jap. Emp. p. 254; (Salvadori), Cat. B. Br. Mus. xxvii. p. 344; (Tacz.), F. O. Sib. O. p. 1169; (Blanf.) F. Brit. Ind. Birds, iv. p. 461.

Akahajiro, Jap.

♂ *ad.* Differs from *N. ferruginea* in having the head and neck black, glossed with bottle-green; bill bluish plumbeous, the base and nail black; feet lead-grey; iris white or pale yellow. Culmen 2·0, wing 8·0, tail 2·8, tarsus 1·25 inch. The female differs from that of *N. ferruginea* in having the head and neck brownish black, with a very faint gloss; lores rufous brown.

Hab. Kamchatka; Eastern Siberia; in winter migrating to Japan, China, and India; has once occurred in England (cf. Bull. B. O. Club xii. p. 25).

In its general habits and nidification it resembles *Æ. nyroca*; its eggs also resemble those of that species, being yellowish buff, and measure about 2·1 by 1·54.

CLANGULA, Leach, 1819.

862. Golden-eye.

CLANGULA GLAUCION.

Clangula glaucion (Linn.), Syst. Nat. i. p. 201 (1766); Gould, B. of Gt. Brit. v. pl. 31; Dresser, vi. p. 595, pl. 440; Salvadori, Cat. B. Br. Mus. xxvii. p. 376; Blanf. F. Brit. Ind. Birds, iv. p. 464; Saunders, p. 451; *A. clangula*, Linn. Syst. Nat. i. p. 201 (1766); Naum. xii. p. 161, Taf. 316; (David and Oust.), Ois. Chine, p. 505; (Tacz.), F. O. Sib. O. p. 1171; Ridgway p. 105; (Lilford), vii. p. 115, pl. 48; Seebohm, B. Jap. Emp. p. 253; *C. vulgaris* Fleming, Brit. An. p. 120 (1828); Gould, B. of E. v. pl. 379; (Hewitson), ii. p. 435, pl. cxix. fig. 1; *C. americana* Bp. Comp. List. p. 58 (1838); Ridgway, p. 105.

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Garrot, French; *Retor* ♂, *Perdigana d'aigua* ♀, Span.; *Quatr'occhi*, Ital.; *Schellente*, German: *Brileend*, Dutch; *Hvinand*, Dan. and Norweg.; *Knipa*, Swed.; *Sotka*, *Telkha*, Finn.; *Gogol*, Russ.; *Shinori-gamo*, Jap.

♂ *ad.* (Norway). Head and upper neck black glossed with bottle-green; feathers on crown and nape elongated; lower neck and under parts white; back, rump, lesser wing-coverts, primaries, and tail black, the last tinged with grey; speculum white; scapulars white externally, margined with black; a large white spot on each cheek close to the gape; lower flanks and crissum marked with black; bill blackish; legs orange-yellow; iris yellow. Culmen 1·4, wing 8·8, tail 3·8, tarsus 1·55 inch. The female has the head and upper neck deep rich brown, the lower neck and sides of fore-back slate-grey with pale tips; upper parts greyish black; under parts whiter, the flanks greyish brown. The male in late summer resembles the female, but may always be distinguished by its pure white wing-coverts.

Hab. Europe in the high north, migrating in winter to south Europe and the northern coasts of Africa: Northern Asia as far north as Kamchatka, migrating in winter to Japan, Corea, China, and India; North America, in summer from Maine and Canada northward, migrating in winter south to Cuba and Mexico.

In the summer it is found inland and being usually unmolested during the breeding season it is by no means shy, but in the winter season, when it frequents the sea-coast it is very shy and wary. It is a very expert diver, obtaining its food under water and feeding on small crustaceans, aquatic insects, and aquatic vegetable substance. It flies swiftly with a whistling sound. It breeds in the high north in hollow trees, in nesting-boxes set up for that purpose, and lines the nest-hole plentifully with down. The eggs 10 to 12, sometimes as many as 19 in number, are usually deposited in June, and are greyish green, smooth in texture of shell and measure about 2·40 by 1·55.

863. Barrow's Golden-eye.

CLANGULA ISLANDICA.

Clangula islandica (Gmel.), Syst. Nat. i. p. 541 (1788); Naum. xii p. 186, Taf. 317; Dresser, vi. p. 603, pl. 441; Salvadori, Cat. B. Br. Mus. xxvii. p. 383; (Ridgway), p. 105; *C. barrovii*, Swains. Faun. Bor. Am. ii. p. 456, pl. 70 (1831); Gould, B. of E. v. pl 380.

Niarkortok, Greenl.; *Husönd*, Icel.

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♂ *ad.* (Iceland). Differs from *C. glaucion* in being larger, the head more crested and glossed with purple, and between the eye and the bill is an irregular crescentic white patch ; the white on the wing consists of two smaller patches, divided by a broad black band. Culmen 1·5, wing 9·2, tail 4·0, tarsus 1·6 inch. The female and young may be distinguished from those of *C. glaucion* by their larger size, the larger and higher bill, and by having less white on the wing.

Hab. Iceland and Greenland, occasionally straying to the northern coasts of Europe, and has occurred as far south as Valencia in Spain ; Northern North America, breeding from the Gulf of St. Lawrence northward ; in winter migrating south to New York, Illinois, Utah, &c.

In its habits it resembles *C. glaucion*, but it breeds amongst stones and in holes in the rocks, and even in holes in houses. Its eggs 9 to 12 in number are deposited in June, and resemble those of *C. glaucion*, but measure about 2·75 by 1·75.

864. Buffle-headed Duck.

CLANGULA ALBEOLA.

Clangula albeola (Linn.), Syst. Nat. i. p. 199 (1766) ; (Audub.) B. Am. vi. p. 369, pl. 408 ; Dresser, vi. p. 589, pl. 439 ; Salvadori, Cat. B. Br. Mus. xxvii. p. 385 ; Tacz. F. O. Sib. O. p. 1174 ; (Ridgway), p. 106 ; Saunders, p. 453 ; Lilford, vii. p. 117, pl. 49.

♂ *ad.* (New Brunswick). Head and upper neck black, glossed with metallic green and purple ; a large white patch from behind the eye extending across the occiput ; lower neck, central and larger wing-coverts, outer scapulars, and speculum white ; upper parts otherwise black ; tail grey ; under parts white ; bill blackish plumbeous ; legs and feet yellowish pink ; iris deep brown. Culmen 1·45, wing 6·7, tail 2·9, tarsus 1·3 inch. The female has the head, neck, and upper parts blackish brown ; a white patch on the ear-coverts, and a band across the wing white ; under parts white, the flanks tinged with ashy grey.

Hab. The Northern United States and British North America, migrating south in winter to Mexico and the West Indies ; a very rare straggler to Great Britain, and has once been obtained on Bering Island, North-east Asia.

In general habits it resembles *C. glaucion*, but is if anything a more expert diver, and will dive at the flash of a gun, hence its local name on the North American coasts of Spirit Duck and Dipper. In the summer it feeds on vegetable matter,

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snails, worms, &c., and in the winter when off the sea-coast on small shell-fish, shrimps, &c. Like the Golden-eye it is a tree-breeder, nesting in hollow trees and deposits 8 to 10 eggs which are buffy or yellowish white and measure about 1·98 by 1·46.

COSMONETTA, Kaup, 1829.

865. Harlequin Duck.

COSMONETTA HISTRIONICA.

Cosmonetta histrionica (Linn.), Syst. Nat. i. p. 204 (1766); (Naum.), xii. p. 199, Taf. 318; (Hewitson), ii. p. 433, pl. cxviii. fig. 2; (Gould), B. of E. v. pl. 381; Dresser, vi. p. 609, pl. 442; (Audub.), B. Am. vi. p. 374, pl. 409; Salvadori, Cat. B. Br. Mus. xxvii. p. 395; Tacz. F. O. Sib. O. p. 1176; (Ridgway), p. 107; Saunders, p. 457; Lilford, vii. p. 121, pl. 51; *Clangula torquata*, Brehm, Vogelfang, p. 385 (1855); (Gould), B. of Gt. Brit. v. pl. 32.

Canard histrion, French; *Kragenente*, German; *Tornauiarsuk*, Greenl.; *Straumönd*, Icel.; *Strömand*, Dan. and Swed.; *Tschernaya-polossataya-Ootka*, Russ.; *Shinori-gamo*, Jap.

♂ *ad.* (Greenland). A large patch in front of the eye, and a spot on the ear-coverts white; a broad stripe through the middle of the crown to the nape black, bordered with white; from above each eye to the nape a broad rusty-red stripe; rest of head and neck blackish blue, marked with a long white stripe on each side of the neck; breast, back, and lesser wing-coverts deep dull blue; wings, tail, and rump black, the inner secondaries and scapulars marked with white; speculum glossy purple; on the lower neck an interrupted white collar, and another in front of the wing; under parts brown, tinged with blue-grey; flanks chestnut-red; under tail-coverts black, with a white spot on each side; bill deep lead-blue, the nail lighter; legs brown; iris dark brown. Culmen 1·3, wing 8·0, tail 4·25, tarsus 1·4 inch. The female is greyish brown, paler below; forehead and at the base of the bill brownish white; a white patch in front of the eye, and one on the ear-coverts; breast and abdomen closely marked with white. In the late summer the male has the plumage much duller, the speculum dusky brownish grey, with a slight metallic gloss; under parts greyish white, spotted with greyish brown, the flanks and under tail-coverts nearly uniform greyish brown.

Hab. Greenland, Iceland; of rare occurrence in Great Britain and continental Europe; Eastern Siberia and Kamchatka, visiting Japan in winter; Northern North America, migrating in winter south to the Middle United States, the Ohio valley, and the coasts of California.

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Like its allies it is an expert diver and can remain a considerable time below the surface. It flies swiftly, usually not high above the surface of the water, and if alarmed will dive at once from the air into the water. In winter it feeds on small mollusca which it obtains by diving, but in summer chiefly on aquatic insects and their larvæ. Its nest is placed on the ground close to some swift-flowing stream, and is most carefully concealed. The eggs 8 to 10 in number, are usually deposited in June or early in July, and are rich cream-coloured, smooth in texture of shell, and measure about 2·32 by 1·45.

HARELDA, Steph., 1824.

866. Long-tailed Duck.

HARELDA GLACIALIS.

Harelda glacialis (Linn.), Syst. Nat. i. p. 203 (1766); (Naum.), xii. p. 210, Taf. 319; (Hewitson), ii. p. 431, pl. cxviii. fig. 1; Gould, B. of E. v. pl. 382; id. B. of Gt. Brit. v. pl. 33; Dresser, vi. p. 617, pls. 443, 444; (Audub.), B. Am. vi. p. 379, pl. 410; Salvadori, Cat. B. Br. Mus. xxvii. p. 389; Tacz. F. O. Sib. O. p. 1179; Saunders, p. 455; Lilford, vii. p. 119, pl. 50; *A. hyemalis*, Linn. Syst. Nat. i. p. 202 (1766); (Ridgway); p. 106.

Harelde glaciale, French; *Moretta codona*, Ital.; *Eisente*, German; *Ijseend*, Dutch; *Havlit*, Dan.; *Isand*, Norweg.; *Alfogel*, Swed.; *Aglek*, Greenl.; *Havelli*, Icel.; *Alli*, Finn.; *Vostroh-vostka*, *Polyarnõi-nyrok*, Russ.

♂ *ad.* (New Brunswick). Forehead and sides of head ashy grey, browner round the eye; a long brown patch on the sides of the neck, becoming chestnut-red below; rest of head, neck, upper breast, back, and scapulars white; sides of and lower back, rump, upper tail-coverts, and elongated middle tail-feathers black; rest of tail white; wing-coverts, primaries, and lower breast brownish black, secondaries washed with chestnut; abdomen white; bill blackish plumbeous, with a band of pinkish orange; legs plumbeous; iris reddish brown. Culmen 1·2, wing 9·0, tail 8·0, the middle-feathers 5·0 longer than the rest, tarsus 1·4 inch. The female has the crown and nape blackish brown, becoming greyish on the hind-neck; upper parts blackish, the scapulars ashy brown with darker centres; middle tail-feathers not elongated; sides of head dull white; chin and a patch down the sides of the neck brown; throat washed with dull brown; a broad blackish brown band across the upper breast; under parts otherwise white. In the summer the male has the forepart of the head sooty grey, the rest of the head, neck, and breast black; upper parts black margined with rusty-red; under parts white.

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Hab. The high northern portions of Europe, Asia, and America, visiting the coasts of continental Europe, and the British Islands in winter, and has been obtained in Italy; Asia, in winter, south to Japan, and in North America to South Carolina.

In the winter season it frequents the sea-coasts and is very hardy, only seeking sheltered places during very severe weather. It dives extremely well, and seeks its food chiefly under water, feeding on small shell-fish. It is a very noisy bird, its peculiar gabbling cry being uttered incessantly. It breeds in the high north, chiefly within the Arctic Circle, its nest being placed on the ground, usually under a bush near the margin of a lake, and the eggs 6 to 8 in number are usually deposited late in June or early in July, and are greyish buff with a faint greenish tinge, and measure about 2·17 by 1·51.

ŒDEMIA, Fleming, 1822.

867. Velvet Scoter.

ŒDEMIA FUSCA.

Œdemia fusca (Linn.), Syst. Nat. i. p. 196 (1766); (Naum.) xii. p. 123 Taf. 313; (Hewitson), ii. p. 419, pl. cxvi. fig. 2; Gould, B. of E. v. pl. 377; id. B. of Gt. Brit. v. pl. 29; Dresser, vi. p. 657, pl. 448. Salvadori, Cat. B. Br. Mus. xxvii. p. 406; Tacz. F. O. Sib. O. p. 1183; Seebohm, B. Jap. Emp. p. 250; Saunders, p. 467; Lilford, vii. p. 133, pl. 56.

Grande Macreuse, French; *Orcho-marino*, Ital.; *Sammetente*, German; *Groote Zeeëend*, Dutch; *Flöielsand*, Dan.; *Sjö-orre*, Norweg.; *Svärta*, Swed.; *Skoarra*, Lapp.; *Pilkasiipi*, Finn.; *Kuro-tori*, Jap.

♂ *ad.* (Sweden). Entire plumage deep glossy black, the under parts rather duller; a small patch below the eye and the speculum white; bill broad, swollen over the nostrils, this portion and the margin of the bill black, the rest orange-yellow; legs pinkish red; iris brown. Gape 2·6, wing 10·7, tail 3·5, tarsus 1·8 inch. The female has the head, neck, and upper parts blackish brown, the latter with pale margins; under parts brighter brown marked with dull white; a large dull white patch in front of and a smaller one behind the eye; bill blackish plumbeous, less swollen than in the male.

Hab. Northern Europe north to Lapland; not found in Iceland, and only once in Greenland; in winter migrating south to the Mediterranean and Caspian; North Asia east to the Yenesei, and also recorded from eastern Siberia and Japan;

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but these references may possibly apply to *O. deglandi*, a very closely allied, scarcely differing form, which inhabits North America, or to *O. carbo*.

Frequents the sea-coasts in winter, only resorting to fresh-water lakes and ponds during the nesting season. It swims with ease and is an excellent diver, but on land it is clumsy and heavy. Its food consists of bivalve mollusca in winter, and of aquatic insects, worms, &c., in the summer. Its nest may be either near to, or at some distance from water, and is a depression in the soil under a bush, lined with down intermatted with grass and a few leaves. The eggs, 8 to 10 in number, are usually deposited late in June or early in July, and are uniform ivory-white with a creamy buff tinge, and measure about 2·75 by 1·95.

868. Kamchatkan Scoter.

ŒDEMIA CARBO.

Œdemia carbo (Pall.), Zoog. Ross. As. ii. p. 244 (1811); Salvadori, Cat. B. Br. Mus. xxvii. p. 411; *O. stejnegeri*, Ridgway, p. 112 (1887); Tacz. F. O. Sib. O. p. 1185; (Seebohm), B. Jap. Emp. p. 250.

Differs from *O. fusca*, in having the white mark more behind and not below the eye; the knob on the culmen is more elevated and with anterior outline concave, the top forming a more or less conspicuous projection; sides of bill bright red.

Hab. Kamchatka and North-eastern Siberia; Japan, Mongolia, and China in winter.

In habits it is said not to differ from *O. fusca*, but so far as I can ascertain nothing is known respecting its nidification.

869. Black Scoter.

ŒDEMIA NIGRA.

Œdemia nigra (Linn.), Syst. Nat. i. p. 196 (1766); (Naum.), xii. p. 108, Taf. 312; Gould, B. of E. v. pl. 378; id. B. of Gt. Brit. v. pl. 28; Hewitson, ii. p. 421, pl. cxvi. fig. 1; Dresser, vi. p. 663, pl. 449; Salvadori, Cat. B. Br. Mus. xxvii. p. 401; Tacz. F. O. Sib. O. p. 1189; Saunders, p. 465; Lilford, vii. p. 129, pl. 55.

Macreuse, French; *Orchetto marino*, Ital.; *Pato negro*, Span.; *Negrolla*, Portug.; *Trauer-Ente*, German; *Zwarte-Zeeëend*, Dutch; *Hrafnsönd*, Icel.; *Sort-and*, Dan.; *Svart-and*, Norweg.; *Sjöorre*, Swed.; *Njurkku*, Lapp.; *Merilintu*, Finn.; *Chernaya-ootka*, Russ.

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♂ *ad.* (Spain). Entire plumage deep black, the head and neck glossed with purplish, the upper parts with greenish steel-blue; under parts duller and tinged with brown; bill with a large bulb at the base of the upper mandible, a line through which, and a large patch in front are orange-yellow; rest of bill bluish black; legs dark olivaceous; iris dark brown. Gape 2·4, wing 9·5, tail 4·1, tarsus 1·8 inch. The female is dull dark brown, the upper parts with paler margins; sides of the head greyish black; chin and upper throat white; middle of abdomen white marked with brown; bill only slightly swollen at the base of the upper mandible and dull bluish black throughout; legs dull olivaceous.

Hab. Northern Europe, north to Lapland and Iceland; in winter ranging south to the Mediterranean and North Africa; Asia, east to the Taimyr Peninsula.

In the summer it frequents inland waters, but in winter it is essentially a marine species. It flies low but swiftly, and is an excellent diver, like its allies, obtaining its food chiefly by diving. Its call-note in winter is harsh, but in the nesting season the male utters a series of loud flute-like notes, *tü, tü, tü, tü,* which is answered by the female with a harsh *re, re, re, re, re.* Its nest is a mere hollow in the ground, usually under a bush, well lined with grass, moss, and down, and the eggs, 8 to 9 in number, are usually deposited about the middle of June, and are creamy white, smooth in texture of shell, and measure about 2·35 by 1·80.

870. American Scoter.

ŒDEMIA AMERICANA.

Œdemia americana, Swains. and Richardson's Faun. Bor. Am. ii. p. 451 (1831); (Audub.), B. Am. vi. p. 343, pl. 403; Salvadori, Cat. B. Br. Mus. xxvii. p. 404; Seebohm, B. Jap. Emp. p. 248; Tacz. F. O. Sib. O. p. 1191; Ridgway, p. 111.

Kuro-gamo, Jap.

♂ *ad.* (New Brunswick). Differs from *O. nigra* in having the bill decidedly hooked, and the entire upper mandible, including the knob, yellow, on the sides shaded with scarlet-vermilion; under mandible blackish; legs and feet blackish brown; iris dark brown. Culmen 1·70, wing 9·2, tail 4·0, tarsus 1·8 inch.

Hab. Northern America, breeding in the high north and migrating in winter south to New Jersey, the Great Lakes,

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and California; Kamchatka and North-eastern Asia; migrating in winter south to Corea and Japan.

In habits and nidification it does not differ from *O. nigra*, Its eggs are said to be pale brownish buff, and to measure about 2·55 by 1·80.

871. Surf Scoter.

ŒDEMIA PERSPICILLATA.

Œdemia perspicillata (Linn.), Syst. Nat. i. p.201 (1766); (Naum.), xii. p. 140, Taf. 314; Gould, B. of E. v. pl. 376; id. B. of Gt. Brit. v. pl. 30; Dresser, vi. p. 669, pl. 450; (Audub.), B. Am. vi. p. 337, pl. 402; Salvadori, Cat. B. Br. Mus. xxvii. p. 412; Tacz. F. O. Sib. O. p. 1188; Ridgway, p. 113; Saunders, p. 469; Lilford, vii. p. 135, pl. 57.

♂ *ad.* (New Brunswick). Entire plumage velvety black; a large patch on the crown, and a large triangular one on the nape pure white; upper mandible bulged into a large lump on each side of the base, and raised centrally nearly to the tooth; space round the nostrils rich red, becoming orange-yellow on the sides; space before and behind this band pure white; tooth pale yellow; a large black patch on each side of the bill, the space between this patch and the feathers orange-yellow and vermilion-red; legs dull pinkish red; iris white. Gape 2·5, wing 9·6, tail 3·6, tarsus 1·8 inch. The female has the crown blackish brown, the sides of head and neck dull brown; on the nape a triangular whitish patch marked with blackish brown; a brownish white patch in front of the eye, and another behind the chin; plumage otherwise dark brown, the upper parts darker and with narrow paler margins; bill less swollen than in the male and blackish plumbeous; legs warm olivaceous; iris greyish.

Hab. Northern America, breeding in the Arctic regions and in winter migrating south to Jamaica, the Carolinas, Ohio River, and Lower California; of accidental occurrence in Britain, Scandinavia, the northern coasts of continental Europe and those of North-eastern Asia.

In general habits it resembles the Velvet Scoter, and like that species obtains its food chiefly by diving. It breeds in Arctic America, its nest being a hollow in the ground, lined with weeds and the dark down of the bird, and the eggs, 6 to 8 in number, resemble those of *O. fusca*, but measure 2·45 by 1·75.

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SOMATERIA, Leach, 1819.

872. Steller's Duck.

SOMATERIA STELLERI.

Somateria stelleri (Pall.), Spic. Zool. fasc. vi. p. 35, Tab. v. (1769); (Gould), B. of Gt. Brit. v. pl. 25; (Middend.), Sib. Reise, p. 234, Taf. 23, figs. 3, 5 (eggs); Newton, P.Z.S. 1861, p. 400, pl. xxxix. fig. 4 (egg); Dresser, vi. p. 649, pl. 447; (Salvadori), Cat. B. Br. Mus. xxvii. p. 419; (Tacz.), F. O. Sib. O. p. 1200; Saunders, p. 463; Lilford, vii. p. 127, pl. 54; (Ridgway), p. 108; *Anas dispar*, Sparrm. Mus. Carls. tabb. 7 and 8 (1786); Naum. xii. p. 240, Taf. 320; (Gould), B. of E. v. pl. 372; (Audub.), B. Am. vi. p. 368, pl. 407.

Scheck-ente, German; *Alförrådare*, Swed.

♂ *ad.* (Norway). Top and sides of head and a collar encircling the back of the neck silky white; a narrow line across the forehead, a loral spot, and an occipital patch dull olive-green; feathers of the throat, and a line dividing the white collar and joining another broad band which encircles the neck, glossy blue-black tinged with purple, as are also the feathers round the eye, and a spot on each side of the nape; back purplish blue-black; scapulars elongated, blue-black, margined with white; wing-coverts white; speculum bluish purple tipped with white; innermost secondaries sickle-shaped and tipped with white; quills and tail blackish brown; under parts deep ferruginous inclining to buff on the upper breast and flanks; middle of breast, abdomen, and under tail-coverts black; sides of upper breast marked with two distinct purplish blue spots; bill plumbeous, the nail lighter; legs and feet greyish brown, the webs darker; iris brown. Culmen 1·45, wing 8·4, tail 3·5, tarsus 1·2 inch. The female has the head olive-brown tinged with rufous and marked with black; upper parts dark brown mottled with rufous; breast rusty brown spotted and barred with dusky; abdomen sooty brown; speculum duller than in the male; falcate inner secondaries dusky.

Hab. Northern Siberia; Kamchatka, south to the Kurile Islands in winter; Alaska; the Arctic coasts of North America to Davis Strait, but not common; Western Greenland, rare; of rare occurrence in Great Britain, the north coast of France, and Denmark, and in the Baltic, but commoner off the north-east coasts of Norway, and a regular winter visitant to the Varanger Fjord.

In general habits it resembles the Eiders. It breeds in Northern Siberia late in June, its nest being a deep depression in the moss of the tundra, well lined with down. The eggs, 7 to 9 in number, are similar in tone of colour to those of *S. spectabilis* but smaller, measuring 2·51 by 1·64.

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873. EIDER.

SOMATERIA MOLLISSIMA.

Somateria mollissima (Linn.), Syst. Nat. i. p. 198 (1766); (Naum.), xii. p. 252, Taf. 321; Hewitson, ii. p. 414, pl. cxv. fig. 3; Gould, B. of E. v. pl. 374; id. B. of Gt. Brit. v. pl. 26; Dresser, vi. p. 629, pl. 445; Salvadori, Cat. B. Br. Mus. xxvii. p. 425; Saunders, p. 459; Lilford, vii. p. 123, pl. 52.

Morillon, *Eider*, French; *Eidergans*, German; *Eidereend*, Dutch; *Edderand*, Dan.; *Ejdergås*, *Estegg*, Norweg.; *Ejder*, Swed.; *Ædur*, Icel.; ♂ *Blíki*, *Handa*, Lapp.; *Haahka*, Finn.; *Gagka Normota*, Russ.

♂ *ad.* (Norway). Crown, forehead, and a wedge half-way to the nostrils black; a white line on the sides of the crown, nape and hind portion of the auricular region pale sea-green; cheeks, sides of neck, back, lesser and median tail-coverts white; lower back, rump, upper tail-coverts, and greater wing-coverts black; quills blackish brown, the inner secondaries sickle-shaped and white; tail greyish brown; throat white tinged with yellow on the lower part; upper breast pale stone-colour; rest of under parts black with a white patch on each side of the rump; bill dull yellowish olivaceous; legs light olive-green; iris brown. Culmen 2·3, wing 11·6, tail 4·0, tarsus 1·75 inch. The female is dark brown barred and marked with sandy rufous, the sides of face and throat sandy, speckled with black; two white alar bars; middle of abdomen greyish brown with traces of black cross-bars. In the summer the male is chiefly dark brown or blackish, retaining the white only on the wing-coverts.

Hab. Europe, in the northern portions up to the northern end of the Gulf of Bothnia and the Arctic Ocean; Iceland; the Færoes; Spitsbergen; occurs in winter on the coasts of continental Europe and has been obtained as far south as the Mediterranean; Northern Asia east to the Yenesei. The form inhabiting Greenland and eastern Arctic America (*S. borealis*, Brehm) is doubtfully distinct. On the Atlantic coasts of N. America it is replaced by *S. dresseri*, Sharpe, differing but little in having the angle on the side of the forehead broad and rounded, and the black of the head bordered beneath by pale green for nearly its entire length.

Inhabits the sea-coasts, being but seldom found inland, and feeds on crustaceans, mussels, marine insects, &c., which it obtains chiefly by diving. The call-note of the male is a tolerably loud *ah-oh*, and that of the female a loud *crock-crock*. It breeds chiefly on islands off the sea-coast, and being in many

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places protected during the breeding season, is then very tame and confiding. The nest is a mere depression on the soil under a juniper bush or a stone, lined with twigs, bits of seaweed, and down, and it readily nests in places especially prepared for it, and its eggs and down are valuable commodities in Iceland and Norway. The eggs, 5 to 7, sometimes 8, in number, are greenish grey, and measure about 3·0 by 2·0.

874. Pacific Eider.

SOMATERIA V. NIGRUM.

Somateria v. nigrum, G. R. Gray, P.Z.S. 1855, p. 212, pl. cvii.; Elliot, Illustr. Am. B. pl. 48; Tacz. F. O. Sib. O. p. 1192; Salvadori, Cat. B. Br. Mus. xxvii. p. 430; Ridgway, p. 110.

♂ *ad.* (N.W. America). Differs from *S. mollissima* in having a V-shaped black mark on the throat like *S. spectabilis* and the bill bright orange or orange-red with the tip paler. Culmen 2·0, wing 12·20, tail 5·5, tarsus 2·15 inch. The female closely resembles that of S. *mollissima* but is as a rule larger.

Hab. North-west America, east to the Great Slave Lake; North-east Asia; the coasts of the Arctic Ocean; Kamchatka and the Commander Islands.

In habits it is said not to differ from *S. mollissima*, and its eggs also resemble those of that species, being according to Mr. Nelson light olive-drab, oval in form, and measure from 2·87 by 2·03 to 3·12 by 2·04. Unlike our European Eider, however, the Pacific Eider does not breed in colonies, but in single pairs, nesting in salt marshes close to a pond or a tide-creek, and not often in close proximity to the sea-shore, and the eggs are deposited in June.

875. King Eider.

SOMATERIA SPECTABILIS.

Somateria spectabilis (Linn.), Syst. Nat. i. p. 195 (1766); (Naum.), xii. p. 285, Taf. 322, 323; Hewitson, ii. p. 417, pl. cxv. figs. 1, 2; Gould, B. of E. v. pl. 375; id. B. of Gt. Brit. v. pl. 27; (Audub.), B. Am. vi. p. 347, pl. 404; Dresser, vi. p. 643, pl. 446; Salvadori, Cat. B. Br. Mus. xxvii. p. 432; Tacz. F. O. Sib. O. p. 1195; Saunders, p. 461; Lilford, vii. p. 125, pl. 53; Ridgway, p. 110.

Canard à tête grise, French.; *Prachtente*, German; *Pragtedder*, Dan.; *Erkonge*, Norweg.; *Prakt-ejder*, Swed.; *Pukskahaahka*, Finn.; *Pistrak*, Russ.

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♂ *ad.* (Greenland). Crown and nape pale ashy blue, sides of head pale green; a large protuberance on the upper mandible over the middle of which a black line is continued to the gape; a spot under each eye and a large V-shaped mark from the chin to the sides of the upper throat black; upper back, central lesser wing-coverts, and a large patch on each side of the rump white; rest of upper parts, wings, tail, and under parts below the breast black; inner secondaries elongated and curved; upper throat white; lower throat and upper breast warm cream-coloured; bill red, the nail yellowish; naked protuberance bright orange; legs dull orange-reddish, the webs blackish; iris brown. Gape 2·35, wing 10·3, tail 3·5, tarsus 1·7 inch. The female differs from that of *S. mollissima* in being smaller, darker, and in having the central line of feathers on the upper mandible extending quite down to the nostrils.

Hab. The Arctic portions of Europe, Asia, and America, straying south in winter, when it occurs rarely in Great Britain, Scandinavia, North Russia, North Germany; rare in Spitsbergen; has once been obtained near Boulogne and once as far south as Venice; in America it ranges in winter south to New Jersey and the Great Lakes.

In habits and nidification it resembles *S. mollissima*. It breeds in Greenland, Novaya Zemlya, the Arctic shores of Siberia and Arctic America, and its eggs, usually 6 in number, are similar to those of *S. mollissima* in shape and colour, but are smaller, measuring about 2·52 by 1·77.

876. Spectacled Eider.

SOMATERIA FISCHERI.

Somateria fischeri (Brandt.), Mem. As. St. Petersb. v. pp. 6, 10, 14, pl. 1, figs. 1, 4 (1847); (Elliot), Ill. B. N. Am. pl. 47; (Tacz.), F. O. Sib. O. p. 1198; (Nelson), Rep. Nat. Hist. Coll. Alaska, p. 76, pl. v. fig. 1; (Salvadori), Cat. B. Br. Mus. xxvii. p. 422; (Ridgway), p. 198.

♂ *ad.* (N.W. America). Space round the eye dull satiny white, bordered anteriorly and posteriorly by a vertical black line; fore-head and lores covered with stiffened feathers, white anteriorly shading into olive-buff and then into greenish buff; crown and occiput covered with a hood of stiff pendant light olive-green feathers; quills, tail, and larger wing-coverts brown; throat, neck, and upper parts with a patch on each side of the rump yellowish white; rump and under parts dark smoky grey; bill orange; legs dull olive-brown, but dull yellowish on the front of the tarsus; iris milky white. Culmen 1·0, wing 10·0, tail 3·0, tarsus 1·7 inch. The female is barred with light fulvous and black, the abdomen plain greyish brown; head and neck light greyish buff finely streaked

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with dusky except on the throat; wings greyish brown, the greater coverts and secondaries indistinctly tipped with whitish; bill dull blue; legs and feet dull yellowish brown.

Hab. North Pacific; the coast of Alaska from Norton Sound to Port Barrow on the American side of Bering Sea, and the Chukchi peninsula in 67° N. lat. on the Asiatic side.

In general habits it does not appear to differ from its allies. In the summer its food consists of small crustacea, grass seeds, and such other food as the brackish pools afford. Its nest is a slight hollow in some dry grassy spot close to a pond on the marsh, well lined with grass; and the eggs, 6 to 8 or 9 in number, are deposited about the middle of June, and are described by Mr. E. W. Nelson as being light olive-drab in colour, and small for the size of the bird, extremes measuring 2·82 by 1·81 and 2·60 by 1·87.

In August the male assumes a plumage much like that of the female, as do all the males of the Eiders.

ERISMATURA, Bonap., 1832.

877. White-headed Duck.

ERISMATURA LEUCOCEPHALA.

Erismatura leucocephala (Scop.), Ann. i. Hist. Nat. p. 65 (1769); (Gould), B. of E. v. pl. 383; Dresser, vi. p. 677, pl. 451; Salvadori, Cat. B. Br. Mus. xxvii. p. 442; Blanf. F. Brit. Ind. Birds, iv. p. 466; *E. mersa*, Bp. Comp. List. p. 59 (1838); (Naum.), xii. p. 149, Taf. 315.

Canard couronné, French; *Pato-tarro*, Span.; *Gobbo rugginoso*, Ital.; *Ruderente*, German; *Savka*, Russ.

♂ *ad.* (Transylvania). Crown black; forehead, sides of head to above the eye, chin, and nape pure white; neck black dotted with buffy brown; lower neck to upper breast, and upper back chestnut-red, the two former delicately barred with black; back, scapulars, and rump warm ochreous buff, the last darker, and all vermiculated with blackish grey; secondaries and larger wing-coverts similar but more greyish buff; lesser coverts dull ashy and slightly vermiculated; tail blackish, long and stiff; under parts below the breast buffy white, obscurely marked with reddish brown; flanks dull chestnut-brown tinged with buff, vermiculated with dark brown; bill pale ultramarine, and much swollen at the base; legs blackish plumbeous; iris dark brown. Culmen 1·9, gape 1·82, wing 6·3, tail 4·3, tarsus 1·35 inch. The female is more rufous in colour; chin, lower cheeks, and a stripe running under the eye towards the nape white; rest of head blackish tinged with rufous; upper parts and breast lacking the blackish bars; beak dull plumbeous; otherwise like the male.

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Hab. Southern Europe, accidental in Germany and Northern France; Northern Africa; Central Asia east to Turkestan, south in winter to India.

Appears to affect fresh water and brackish lagoons in preference to the sea, and usually when alarmed seeks safety by diving in preference to taking wing. It breeds amongst the reeds and aquatic plants, depositing in June 7 to 9 eggs, dull white in colour, very coarse in texture of shell, and measuring about 2·75 by 1·95.

MERGUS, Linn., 1766.

878. GOOSANDER.

MERGUS MERGANSER.

Mergus merganser, Linn. Syst. Nat. i. p. 208 (1766); Naum. xii. p. 358, Taf. 326; Hewitson, ii. p. 439, pl. cxviii. fig. 3; Gould, v. pl. 384; Dresser, vi. p. 685, pl. 452; David and Oust. Ois. Chine. p. 510; Saunders, p. 471; Lilford, vii. p. 137, pl. 58; Tacz. F. O. Sib. O. p. 1203; *M. castor*, Linn. Syst. Nat. i. p. 209 (1766); Gould, B. of Gt. Brit. v. pl. 34; (Salvadori), Cat. B. Br. Mus. xxvii. p. 472; (Blanf.), F. Brit. Ind. Birds, iv. p. 469; *M. comatus* (Salv.), tom. cit. p. 475 (1895).

Grand Harle, French; *Smergo maggiore*, Ital.; *Grosser Säger*, German; *Groote Zaagbek*, Dutch; *Stor Skallesluger*, Dan.; *Körfågel*, Norweg.; *Storskrake*, Swed.; *Kussa-koalsi*, Lapp.; *Iso-koskelo*, *Uu-koskelo*, Finn.; *Bolshoy-Krahal*, Russ.; *Gulönd*, Icel.; *Kawa-aisa*, Jap.

♂ *ad.* (Archangel). Head and upper neck glossed with green, the occipital feathers elongated; lower neck and upper back white, the latter marked with black, becoming with the outer webs of scapulars glossy black; lower back, rump, upper tail-coverts, and tail dark ashy, the last darkest; primaries ashy black; secondaries white margined with black, the innermost black; primary coverts, edge and base of wing blackish grey; rest of wing-coverts and under parts white, the breast and abdomen tinged with warm reddish buff; bill deep vermilion, the ridge of upper mandible and tooth blackish; legs vermilion; iris deep reddish brown. Culmen 2·4, wing 11·0, tail 5·0, tarsus 1·9 inch. The female has the crown, nape, and upper neck rusty red, the lores and round the eye dark brown; upper parts brown, greyish on the back; chin, lower neck, and under parts white, the flanks marked with pale slate-grey; wings as in the male.

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Hab. High north of Europe and Asia in the breeding season, in winter visiting Britain, Central and Southern Europe to the Mediterranean; Central Asia east to Japan and Mongolia; China and India in winter. The American form, *M. americanus*, Cass, differs very slightly in having a black bar across the wings at the base of the greater coverts.

Frequents fresh water during the breeding season, being found on the sea-coast only in the winter. Its cry is loud and harsh, chiefly uttered when the bird is on the wing. It feeds principally on fish, but also eats water-insects and larvæ. It usually nests in a hollow tree, and readily takes to a nest-box, but sometimes on the ground under a stone, the nest being well lined with down, and late in April or early in May deposits 8 to 12 eggs, which are warm yellowish white, smooth in texture, and measure about 2·65 by 1·81.

879. Red-breasted Merganser.

MERGUS SERRATOR.

Mergus serrator, Linn. Syst. Nat. i. p. 208 (1766); Naum. xii. p. 333; Taf. 325; Hewitson, ii. p. 437, pl. cxix. fig. 2; Gould, B. of E. v. pl. 385; id. B. of Gt. Brit. v. pl. 35; Dresser, vi. p. 693, pl. 453, David and Oust. Ois. Chine, p. 511; (Salvadori), Cat. B. Br. Mus. xxvii. p. 479; Tacz. F. O. Sib. O. p. 1206; (Blanf.), F. Brit. Ind. Birds, iv. p. 470; (Ridgway), p. 89; Saunders, p. 473; Lilford, vii. p. 139, pl. 59; Seebohm, B. Jap. Emp. p. 258.

Harle huppé, French; *Merganso*, Portug.; *Pato de sierra*, Span.; *Smergo minore*, Ital.; *Mittlere Säger*, German; *Zaagbek*, Dutch; *Toppet-skallesluger*, Dan.; *Siland*, Norweg.; *Småskrake*, *Pracka*, Swed.; *Toppönd*, Icel.; *Vuokta-koalsi*, Lapp.; *Koskelo*, Finn.; *Krahal*, Russ.; *Umi-aisa*, Jap.

♂ *ad.* (Finland). Head and upper neck black glossed with purple and green; coronal and nuchal feathers much elongated; central neck white with a narrow black line behind; back, scapulars, and long inner secondaries black with a purple gloss; rump and upper tail-coverts white vermiculated with black; wing-coverts and secondaries white, the latter bordered with black on the outer web; two black bars across the wing; primaries and tail dark greyish brown; lower neck and upper breast reddish brown streaked with blackish; feathers in front of shoulder white broadly margined with black; under parts very pale warm buff, the flanks white vermiculated with black; bill vermilion, the edge of the mandible and nail dusky; legs vermilion; iris red. Culmen 2·4, wing 9·5, tail 3·1, tarsus 2·0 inch. In the summer the male resembles the female, but is larger, and the abdomen and scapulars are differently coloured. The

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female has the head and upper neck dull reddish brown; chin and front of neck dull white; upper parts dark ash with paler margins; under parts white, the lower fore neck tinged with grey; flanks sooty grey; in size less than the male.

Hab. Northern Europe generally, up to the North Cape and Iceland; breeds in Scotland and Ireland; in winter to the Mediterranean and North Africa; Northern Asia, in winter to Japan, China, and Northern India; North America, breeding in the far north, and in winter ranging south to Bermuda.

In general habits it resembles the Goosander, and like that bird it is an expert diver and feeds chiefly on fish. It usually nests on the ground, but seldom in a hollow tree, its nest being composed of moss, grass, etc., intermixed with down, and in June it deposits 8 to 12 eggs, which are dull stone-buff or creamy greenish grey, and measure about 2·60 by 1·76.

880. Hooded Merganser.

MERGUS CUCULLATUS.

Mergus cucullatus, Linn. Syst. Nat. i. p. 207 (1766); Gould, B. of E. v. pl. 386; (id.), B. of Gt. Brit. v. pl. 36; Wils. Am. Orn. viii. p. 79, pl. 69, fig. 1; Dresser, ix. p. 296, pl. 696; (Salvadori), Cat. B. Br. Mus. xxvii. p. 468; Audub. B. Am. vi. p. 402, pl. 413; Saunders, p. 477; Lilford, vii. p. 144, pl. 61; Ridgway, p. 89.

♂ *ad.* (New Brunswick). Forehead dark brown; head with a semicircular compressed crest, white in the middle, broadly margined with black, except behind where the margin is narrow; upper parts brownish black, the scapulars deep black; speculum white crossed by two black bands; primary quills and tail brown; upper neck black; lower neck and under parts white; on each side of the neck two black crescentic bands; flanks reddish brown vermiculated with blackish, under tail-coverts greyish white freckled and vermiculated with warm brown; bill black; feet and legs yellowish brown; iris yellow. Culmen 1·7, wing 7·4, tail 3·8, tarsus 1·25 inch. The female has the crest reddish brown; rest of head, neck, and breast greyish brown, darker above; chin, upper throat, and under parts below the breast white; flanks brown with pale margins.

Hab. North America, north to Alaska, ranging south in winter to Mexico and Cuba; of accidental and very rare occurrence in Greenland, a rare winter straggler to the British Islands.

In habits it resembles its congeners, but is very shy and wary, flies rapidly, and is an expert diver, subsisting chiefly on fish.

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It affects fresh water and only visits the sea-coasts in winter when driven by stress of weather from its usual haunts. It nests in hollow trees usually at a considerable height above the ground, and lines the cavity with dry grass, leaves, and plenty of down. The eggs, 5 to 8 in number, are usually deposited in May, and are very round, the shell being remarkably thick and smooth, in colour creamy white, and in size measuring about 2·1 by 1·76.

881. Smew.

MERGUS ALBELLUS.

Mergus albellus, Linn. Syst. Nat. i. p. 209 (1766); Wils. Am. Orn. viii. p. 126, pl. 71; Naum. xii. p. 314, Taf. 324; Audubon, B. Am. vi. p. 408, pl. 414; Gould, B. of E. v. pl. 387; id. B. of Gt. Brit. v. pl. 37; Dresser, vi. p. 699, pls. 454, 455; Salvadori, Cat. B. Br. Mus. xxvii. p. 464; Tacz. F. O. Sib. O. p. 1208; Blanf. F. Brit. Ind. Birds, iv. p. 467; Seebohm, B. Jap. Emp. p. 259; Saunders, p. 475; Lilford, vii. p. 141; pl. 60; Ridgway, p. 90.

Petit Harle huppé, French; *Pesciajola*, Ital.; *Kleiner Säger*, German; *Nonnetje*, Dutch; *Hvid-skallesluger*, *Nonne*, Dan.; *Hvid-Fiskand*, Norw.; *Salskrake*, Swed.; *Uinelo*, *Ungilo*, *Herna* Finn.; *Lutok*, *Paganka*, Russ.; *Nihcnna*, Hindu.; *Miko-aisa* Jap.

♂ *ad.* (Holland). General plumage white except as follows: lores and a large patch round the eye, a nuchal patch, middle of the back, a narrow line on the upper breast and a mark close to the base of the wing on the sides deep black; primaries blackish; secondaries, except the inner ones and primary coverts black, tipped with white; scapulars tipped with black; rump blackish; upper tail-coverts greyish brown, tipped with dull white; flanks vermiculated with black; bill and legs pale plumbeous, the nail paler; iris silvery white. Culmen 1·25, wing 7·6, tail 3·8, tarsus 1·3 inch. The female has the crown, nape, and hind neck reddish brown; lores and space round the eye dark brown; upper parts brown, greyish on the upper back; lower parts white, the upper breast washed with slate-grey; wings duller than in the male; flanks washed with greyish brown. In the summer the male resembles the female but has the upper parts darker; the facial patch, and the semilunar mark on the sides of the breast black.

Hab. North Europe and Asia, north into Finnish Lapland and Kamchatka, in winter ranging south to Britain and the coasts of Europe to the Mediterranean, and in Asia to Japan, Corea, China, and India; of rare and occasional occurrence in North-east America.

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In habits it resembles *M. serrator*, but appears to frequent fresh water more than that species. It is also an expert diver, and feeds on small fish, aquatic insects, small frogs, etc. It breeds in hollow trees, lining the nest hollow with down, and in June deposits 6 to 8 eggs, which resemble those of the Wigeon, but are much more polished in surface of shell, and measure about 2·05 by 1·48.

SPHENOCERCUS, G. R. Gray, 1840.

882. Siebold's Green Pigeon.

SPHENOCERCUS SIEBOLDI.

Sphenocercus sieboldi (Temm.), Pl. col. pl. 549 (1835); (Temm. and Schlegel), Faun. Jap. Aves, p. 102, pl. 60D; (Seebohm), B. Jap. Emp. p. 163; Salvadori, Cat. B. Br. Mus. xxi. p. 12.

Awo-bato, Jap.

♂ *ad.* (Japan). Head, neck, and entire breast bright apple-yellow, the crown, nape, and hind neck washed with green; upper parts generally dark parrot-green, the fore part of the back slaty bluish; wing-coverts maroon-red; larger coverts and quills, which are dark slate, margined with yellowish white; outer tail-feathers dark slate, the middle ones like the back; under parts white with a yellowish tinge; flanks dove-blue and green; under tail-coverts yellowish, with green along the middle. Culmen 0·82, wing 7·3, tail 4·75, tarsus 1·0 inch. The female has the yellow portions of the plumage greener, and lacks the maroon-red on the wings.

Hab. Japan only, a summer visitant in the north, resident in the south.

In habits it is said to be exceedingly shy, and frequents the moderately high bluffs near the sea-shore, on the sands of which latter it frequently alights. Its note is a long and varied *coo*. Respecting its nidification I find nothing on record. This species is an insular form of *S. sphenurus* (Gray) which inhabits the Himalayas.

COLUMBA, Linn., 1766.

883. Rock-Dove.

COLUMBA LIVIA.

Columba livia, Bonn. Encycl. Méthod. i. p. 227 (1790); Naum. vi. p. 186, Taf. 150; Hewitson, i. p. 274, pl. lxvii. fig. 3; Gould, B. of E. iv. pl. 245; id. B. of Gt. Brit. iv. pl. 3; Dresser, vii. p. 11, pl. 457; Salvadori, Cat. B. Br. Mus. xxi. p. 252; Blanf. F. Brit. Ind. Birds, iv. p. 30; Saunders, p. 483; Lilford, iv. p. 89, pl. 41.

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Colombe biset, French; *Pomba*, Portug.; *Paloma silvestre*, Span.; *Piccione selvatico*, Ital.; *Felsentaube*, German; *Klippedue*, Dan. and Norweg.; *Klippdufva*, Swed.; *Kesykyyhkynen*, Finn.; *Golub*, Russ.; *Hamam el Berri*, Moor.; *Hamam*, Arab.

♂ *ad.* (England). Head, neck, and upper parts slaty blue, the back and wings paler, the head and neck darker and glossed with green; lower neck on sides and in front glossed with coppery purple; two bands across the wings, and terminal portion of tail black; rump white; under parts dove-blue tinged with slate; bill reddish brown; legs reddish; iris orange. Culmen 0·8, wing 8·5, tail 4·6, tarsus 1·2 inch. Female rather smaller and duller.

Hab. The western Palæarctic area, north to the Færoes, but not found in Scandinavia or in many parts of Eastern Europe; North Africa; Asia east to Afghanistan and Northern India.

This, the original stock from which our tame Pigeons have sprung, inhabits rocky localities on the sea-coast, and is numerous in several parts of the rocky coasts of Britain. Its flight is very swift, and performed with a whistling sound. Its note is a *coo-roo-coo* quickly repeated, the last syllable prolonged; and its food consists of grain of various kinds, seeds of wild plants, roots of grass, snails, etc. The nest is composed of plant-stems and grass, and is placed on the shelf of a rock in a cave, and two broods are usually reared in the year, one in about April and the second in September. The eggs, like those of all the Pigeons, are 2 in number, pure white, and measure about 1·59 by 1·07.

In Africa there are two forms which have been recognized by Count Salvadori as species, *C. gymnocyclus*, Gray, from Senegal, and *C. schimperi*, Bp., from Egypt, Nubia, and Palestine, which are barely separable from *C. livia*.

884. Subsp. Columba intermedia.

Columba intermedia, Strickl. Ann. and Mag. N. H. xiii. p. 39 (1844); David and Oust. Ois. Chine, p. 384; Gould, B. of A. vi. pl. 56; Seebohm, B. Jap. E. p. 160; Blanf. F. Brit. Ind. Birds, iv. p. 29; Salvadori, Cat. B. Br. Mus. xxi. p. 259.

Kabutar, Hindu.; *Kawara-bato*, Jap.

ad. Differs from *C. livia* in having the rump slaty grey, not white.

Hab. Southern Persia, India, Ceylon, China, and Japan.

Frequents rocks and cliffs, old buildings, walls, &c., and is found both inland as well as on the coasts. In general habits

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it does not differ from *C. livia*. It breeds in Northern India from December to May, later in the South, and nests in holes in cliffs, walls, temples, tombs, or wells, depositing 2 white eggs, like those of *C. livia*, which measure about 1·45 by 1·12.

885. Hill Rock-Dove.

COLUMBA RUPESTRIS.

Columba rupestris, Bp. Consp. Gen. Av. ii. p. 48 (1857); Pall. Zoogr. Ross. As. i. p. 560, Tab. 35; Gould, B. of A. vi. pl. 54; David and Oust. Ois. Chine, p. 385; Salvadori, Cat. B. Br. Mus. xxi. p. 250; Blanf. F. Brit. Ind. Birds, iv. p. 30; Tacz. F. O. Sib. O. p. 729.

♂ *ad.* (Central Asia). Differs from *C. livia* in having a broad, white band across the middle of the tail, in being slightly paler both above and below, and the breast tinged with lilac; bill black; feet lobster-red; iris golden red. Culmen 0·64, wing 9·0, tail 5·1, tarsus 1·05 inch.

Hab. Central Asia, the Himalaya, Tibet, South-eastern Siberia, Corea, Northern and Eastern China.

Inhabits the rocky portions of the mountains in the interior of the country, but in general habits does not differ from *C. livia*. It usually nests in the cliffs, but when no suitable place is near it nests in buildings, and in March deposits 2 white eggs, which measure about 1·42 by 1·02.

886. White-backed Dove.

COLUMBA LEUCONOTA.

Columba leuconota, Vig. P.Z.S. 1831, p. 23; Gould, Cent. Himal. B. pl. 59; Salvadori, Cat. B. Br. Mus. xxi. p. 249; Blanf. F. Brit. Ind. Birds, iv. p. 32.

♂ *ad.* (India). Head dark slate-grey or plumbeous; neck, lower back, and under parts white; upper back, scapulars, inner secondaries ashy brown; rest of wings above dove-blue, the wings crossed by three blackish brown bars; rump, upper tail-coverts, and tail blackish, the last crossed by a broad, white band which is in the middle of the central, but close to the end of the outermost feathers; lower abdomen tinged with dove-blue, the under tail-coverts pale dove-blue; bill and claws horny black; feet bright light red; iris yellow. Culmen 1·0, wing 9·6, tail 5·3, tarsus 1·2 inch. Female similar but somewhat duller in colour.

Hab. Himalayas from Gilgit to Bhutan; Tibet; Kan-su.

Is an inhabitant of the higher mountain ranges at from 10,000 to 14,000 feet altitude, where it inhabits the most

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unapproachable and desolate rocks, avoiding woods and never perching on a tree, only visiting the alpine meadows and Tangut villages in search of food. Nothing is known respecting its nidification except that it nests amongst inaccessible crags in Kashmir in August, and in Mongolia in May.

887. Stock-Dove.

COLUMBA ŒNAS.

Columba œnas, Linn. Faun. Suec. p. 75 (1761); Gmel. Syst. Nat. i. p. 769 (1788); Naum. vi. p. 215, Taf. 151; Hewitson, i. p. 273, pl. lxvii. fig. 2; Gould, B. of E. iv. pl. 244; id. B. of Gt. Brit. iv. pl. 2; Dresser, vii. p. 23, pl. 458; Salvadori, Cat. B. Br. Mus. xxi. p. 261; Saunders, p. 481; Lilford, iv. p. 85, pl. 40.

Colombe, French; *Paloma zura*, Span.; *Colombella*, Ital.; *Hohltaube*, German; *Kleine-Boschduif*, Dutch; *Skovdue*, Dan. and Norweg.; *Skogsdufva*, Swed.; *Sinikyyhka*, Finn.; *Klintuch*, Russ.

♂ *ad.* (England). Head, neck, and upper parts generally blue-grey with a slate tinge, the rump, upper tail-coverts and wing-coverts paler and bluer; sides of and hind-neck glossed with metallic green; a patch of blackish grey on some of the inner secondaries and wing-coverts; tail at base bluish grey, then light grey, the terminal portion dark plumbeous; under parts blue-grey, the breast vinous red; bill red at the base, becoming yellow towards the tip, the soft portion at the base of the upper mandible greyish; iris red; legs pinkish red. Culmen 0·85, wing 8·45, tail 4·7, tarsus 1·1 inch. The female is somewhat smaller, and duller in colour.

Hab. Europe generally, up to about 61° N. lat.; North-west Africa; Asia Minor, and Asia east to Turkestan.

In habits it differs from the Rock-Dove in that it affects woods and groves inland. It feeds on grain and seeds of various kinds, beech-nuts, acorns, and blueberries. Its note is a loud guttural, rumbling note. Sometimes two broods are reared in the year, the first eggs being deposited late in March or early in April, and it nests in hollow trees, holes in the ground, old ivy, and even in old buildings. The eggs, 2 in number, are pure white, and measure about 1·51 by 1·6.

888. Indian Stock-Dove.

COLUMBA EVERSMANNI.

Columba eversmanni, Bp. Compt. Rend. xliii. p. 838 (1856); Dresser, vii. p. 26, pl. 698; Salvadori, Cat. B. Br. Mus. xxi. p. 264; Blanf. F. Brit. Ind. Birds, iv. p. 31; *C. fusca*, Severtz. Turk. Jevot. p. 68 (1873 nec. Müll.); Tacz. F. O. Sib. O. p. 732.

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Koek-Koepteri, Tekke; *Kügan*, Turki; *Kamar-Kular*, Hindu.

♂ *ad.* (India). Differs from *C. œnas* in being smaller and paler; head tinged with vinaceous; rump whitish grey, nearly white; tail with the grey band nearly obsolete; the metallic feathers on the neck glossed with coppery chestnut; legs and feet yellowish fleshy; bill pale yellowish green, base of lower mandible and gape slaty; iris dark yellow. Culmen 0·75, wing 7·75, tail 4·5, tarsus 1·0 inch. Female similar but a little smaller.

Hab. Transcaspia; Afghanistan; Turkestan; South-western Siberia; North-west India in winter.

In general habits this species does not differ from *C. œnas*. It nests in hollow trees and holes in the ground; in Transcaspia frequently in colonies in holes and cracks in the steep river-banks, and late in April deposits 2 eggs, which resemble those of *C. œnas*, but are rather smaller.

889. Canarian Dove.

COLUMBA LAURIVORA.

Columba laurivora, Webb and Berthelot, Orn. Canar. p. 26, pl. 3, lower fig. (1841); Dresser, vii. p. 31, pl. 460; Salvadori, Cat. B. Br. Mus. xxi. p. 297.

Rabiblanco, in the Canaries.

♂ *ad.* (Canaries). Head, neck, and back dull slate-blue, the crown and nape glossed with green, the sides of the neck with purplish red and green; upper surface of wings brownish slate; quills dark brown; tail pale brownish ash-grey, becoming paler towards the middle, and greyish white at the tip; throat-feathers reddish tipped with green; rest of under parts coppery red, the under tail-coverts slate-blue; bill white, but pink at the base; legs dark red; iris yellowish. Culmen 1·2, wing 8·6, tail 6·2, tarsus 1·5 inch. Female similar.

Hab. The islands of Gomera and Palma, Canaries.

Is peculiar to the Canaries, and is essentially a forest bird, frequenting the wilder and less accessible parts of the islands of Gomera and Palma, where it feeds on laurel berries and tender buds, grain, &c. It breeds in the forests, and in May deposits a single egg, which is pure white, and measures about 1·68 by 1·12.

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890. Bolle's Pigeon.

COLUMBA BOLLII.

Columba bollii, Godman, Ibis, 1872, p. 217 ; Dresser, vii. p. 29, pl. 459 ; Kœnig, J. f. O. 1890, p. 441, Taf. viii. fig. 12 (egg) ; Salvadori, Cat. B. Br. Mus. xxi. p. 297.

Paloma turquesa, *Torcaza*, in the Canaries.

♂ *ad.* (Teneriffe). Differs from *C. laurivora* in being darker and bluer above, the throat down to the breast slaty blue, slightly glossed with green, the breast and under parts deep vinous red, the flanks, lower abdomen, and under tail-coverts deep bluish slate ; tail blackish, broadly subterminated with dark dove-blue, and finally tipped with dusky slate ; bill red, the tip white ; legs, iris, and edge round the eye coral-red. Culmen 1·0, wing 8·2, tail 6·2, tarsus 1·2 inch.

Hab. The islands of Teneriffe, Palma, and Gomera (Canaries).

Like the preceding species, it inhabits the forests and woods, and is shy and retiring in its habits. It feeds on berries of various kinds, chiefly those of the laurel, and on grain. The nest, which is placed in a laurel or tree heath, is constructed of twigs, lined with finer ones, and the single egg, which is laid in February, March, or April, is pure white, and measures about 1·69 by 1·18.

891. Madeiran Dove.

COLUMBA TROCAZ.

Columba trocaz, Heineken in Brewst. Journ. Sc. 1829, p. 228 ; Jardine and Selby, Ill. Orn. ii. pl. 98 ; Dresser, vii. p. 33, pl. 461 ; Salvadori, Cat. B. Br. Mus. xxi. p. 289.

Pombo trocaz, in Madeira.

♂ *ad.* (Madeira). Dove-blue, somewhat paler on the head, fore-neck, lower back, rump, and under parts ; feathers on the sides and back of neck tipped with silvery grey ; hind-neck and fore-back glossed with green and purple ; primary coverts and quills slaty black, the latter with narrow grey margins ; tail dark plumbeous slate with a broad subterminal slate-blue band ; breast vinous red ; bill and bare space round the eye coral-red, the former tipped with blackish ; legs coral-red ; iris straw-yellow. Culmen 1·0, wing 9·2, tail 7·4, tarsus 1·38 inch. Female similar.

Hab. Madeira.

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In habits it does not differ from its allies, and like them lays a single white egg in a nest made of twigs, which is placed in a tree, usually a laurel, at a considerable height above the ground. The egg is rather large, measuring 1·98 by 1·20, and fresh eggs may be found at almost all seasons.

892. Ring-Dove or Wood-Pigeon.

COLUMBA PALUMBUS.

Columba palumbus, Linn. Syst. Nat. i. p. 282 (1766); Naum. vi. p. 168, Taf. 149; Gould, B. of E. pl. 243; Dresser, vii. p. 3, pl. 454; Salvadori, Cat. B. Br. Mus. xxi. p. 299; Saunders, p. 479; Lilford, iv. p. 87, pl. 39; *C. torquata*, Leach, Syst. Cat. M. and B. Brit. Mus. p. 26 (1816); Gould, B. of Gt. Brit. iv. pl. 1.

Colombe ramier, French; *Pombo torquaz*, Portug.; *Paloma torcaz*, Span.; *Colombaccio*, Ital.; *Ringeltaube*, German; *Ringduif*, Dutch; *Ringdue*, Dan. and Norweg.; *Ring-dufva*, Swed.; *Kauluskyyhky*, Finn.; *Wjachir*, *Lesnoi-Golub*, Russ.

♂ *ad.* (England). Head and neck dark dove-blue; mantle brownish grey; wing-coverts dark bluish; quills blackish, the primaries edged with white, and a long white patch on the outer part of the wing; rump, upper tail-coverts, and base of tail dove-blue, the last darker; terminal half of tail black; sides of neck glossed with violet and purple, on each side a large white patch; lower throat, breast, and abdomen rich vinous, merging into pale dove-blue below; bill bright red, becoming yellow towards the tip; legs coral-red; iris straw-yellow. Culmen 1·05, wing 9·4, tail 6·5, tarsus 1·2 inch. Female rather smaller and duller.

Hab. Europe generally, north to about 65° N. lat.; Azores; Madeira; North Africa; Asia east to about Bagdad.

In some of its habits it much resembles *C. œnas*, but never breeds in holes of trees or in the ground; wary and shy, where not molested it becomes remarkably tame, as is the case in the London parks. Its note is a deep *coo-roo-coo-coo* and is generally uttered when the bird is sitting on an elevated perch. Its food consists of grain of various kinds, beech-nuts, acorns, tender shoots of plants, &c. Strictly monogamous, it rears at least two broods in a season, the first eggs being laid in April, and the second pair in June, and eggs have been found as late as September. The nest is a very scanty structure of dry twigs, or else a deserted nest of some other bird is made use of, and the two eggs are pure white, and measuring about 1·56 by 1·18.

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893. Eastern Ring-Dove.

COLUMBA CASIOTIS.

Columba casiotis (Bp.), Consp. Gen. Av. ii. p. 42 (1857); Dresser, ix. p. 299, pl. 697; Salvadori, Cat. B. Br. Mus. xxi. p. 302; (Blanf.), F. Brit. Ind. Birds, iv. p. 34.

Dhanua, Hindu.

♂ *ad.* (Afghanistan). Resembles *C. palumbus*, but differs in having the patches on the sides of the neck ochreous instead of white; bill orange at the tip, whitish at the base; feet red; iris yellowish white.

Hab. Southern Persia, Afghanistan, Central Asia and North-west India.

In habits it does not differ from *C. palumbus*. It breeds in North-west India in May and June, its nest and eggs being similar to those of *C. palumbus*, the latter measuring about 1·6 by 1·1.

894. Japanese Dove.

COLUMBA IANTHINA.

Columba ianthina (Temm.), Pl. Col. 503 (1830); (Seebohm), B. Jap. Emp. p. 165; Salvadori, Cat. B. Br. Mus. xxi. p. 310.

Karasu-bato, Jap.

♂ *ad.* (Japan). General colour slaty black, the crown, back, rump, and wing-coverts glossed with metallic purple, the neck, fore part of back and breast with metallic green; under parts paler and more slaty blue than the upper parts; bill dark bluish; legs reddish; iris brown. Culmen 1·0, wing 9·4, tail 7·0, tarsus 1·2 inch. Female similar but duller.

Hab. Japan and Loo-Choo Islands.

I do not find anything on record respecting the habits of the present species. It is said to nest in trees about five feet from the ground, and in May deposits 2 white eggs.

TURTUR, Selby, 1835.

895. Turtle-Dove.

TURTUR COMMUNIS.

Turtur communis, Selby, Nat. Libr. Pigeons, pp. 153, 171 (1835); Blanf. F. Brit. Ind. Birds, iv. p. 42; Saunders, p. 485; Lilford, iv. p. 93, pl. 42; *Columba turtur*, Linn. Syst. Nat. i. p. 284 (1766); Naum.

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vi. p. 233, Taf. 152; Hewitson, i. p. 275, pl. lxvii. fig. 4; Gould, B. of E. iv. pl. 246; (Salvadori), Cat. B. Br. Mus. xxi. p. 396; *T. vulgaris*, Eyton, Cat. B. B. p. 32 (1836); Dresser, vii. p. 39, pl. 462; *T. auritus*, G. R. Gray, List of G. of B. p. 38 (1840); Gould, B. of Gt. Brit. iv. pl. 4.

Tourterelle, French; *Rola*, Portug.; *Tortola*, Span.; *Tortora*, Ital.; *Turteltaube*, Germ.; *Tortelduif*, Dutch; *Turteldue*, Dan. and Norweg.; *Turturdufva*, Swed.; *Turturikyyhka*, Finn.; *Gorlitza*, Russ.

♂ *ad.* (England). Head, neck, breast, and flanks bluish ash, the neck and breast washed with rosy vinous; back brownish ash marked with reddish brown; shoulders and most of wing-coverts blackish brown margined with bright rufous; larger and external smallest coverts pale dove-blue; rump dove-blue marked with brown; upper tail-coverts and middle tail feathers clove-brown, the rest blackish brown tinged with blue and broadly tipped with white; on each side of the neck four rows of black feathers tipped with white; rest of under parts white; beak brown; legs coral-red; iris reddish brown; bare skin round the eye red. Culmen 0·8, wing 7·0, tail 4·8, tarsus 0·85 inch. Female similar, but rather smaller and duller. The young bird is browner and duller, and lacks the black and white bars on the sides of the neck.

Hab. Europe generally, north as a straggler to Northern Scandinavia; Madeira and the Canaries; Northern Africa in winter, south to Shoa; Asia east to Yarkand and Kashgar. Is a migrant, arriving in England in May, leaving for the south early in the autumn, and in general habits is a timid bird, and frequents woods and groves.

Its note is a rough *turr-turr*, *turr-turr*, chiefly uttered in the warm weather, and its food consists of grain and seeds of various kinds. Its nest is a very slight platform of twigs, and is placed on a bush or a tree, and its eggs, 2 in number, are usually laid towards the end of May, and are pure white, measuring about 1·20 by 0·91.

896. Isabelline Turtle-Dove.

TURTUR ISABELLINUS.

Turtur isabellinus, Bp. Compt. rend. xliii. p. 942; Dresser, vii. p. 49, pl. 464, fig. 1; Salvadori, Cat. B. Br. Mus. xxi. p. 400; *T. sharpii*, Shelley, Ibis, 1870, p. 447; id. B. of Egypt, p. 215, pl. 10, fig. 2.

♂ *ad.* (Egypt). Differs from *T. communis* in being smaller, in having the head, hind neck, and upper parts generally tawny reddish brown, the head paler and ochreous in tinge; wing-coverts broadly margined with

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warm rufescent ochreous brown ; rump and upper tail-coverts dark brown broadly margined with tawny brown ; tail without any blue tinge ; chin and upper throat pale brownish ochreous, gradually fading into deep coppery pink, and on the lower abdomen and under tail-coverts into white. Culmen 0·7, wing 6·0, tail 4·3, tarsus 0·8 inch.

Hab. North-east Africa, north to Cairo; of doubtful occurrence in Asia Minor.

In habits and nidification this species does not differ from *T. communis*, of which it is a desert form.

897. Eversmann's Turtle-Dove.

TURTUR FERRAGO.

Turtur ferrago (Eversm.), Add. Pall. Zoogr. Ross. As. fasc. iii. p. 17 (1842) ; Salvadori, Cat. B. Br. Mus. xxi. p. 401 ; Blanf. F. Brit. Ind. Birds, iv. p. 41.

♂ *ad.* (Turkestan). Differs from *T. communis* in being larger, with the edges of the scapulars and upper wing-coverts more rufous, the black feathers on the sides of the neck tipped with dove-grey and not with white, and the tips of the tail-feathers are sometimes very pale grey, though generally pure white. Culmen 0·75, wing 7·6, tail 5·25, tarsus 1·0 inch.

Hab. Himalaya from Sikhim to Afghanistan; Central Asia; Turkestan and S.W. Siberia; Northern India in winter.

In general habits it does not differ from *T. communis*. It breeds in the Himalaya at from 4,000 to 8,000 feet elevation, from May to August, and lays 2 pure white eggs, which measure about 1·22 by 0·93.

898. Chinese Turtle-Dove.

TURTUR ORIENTALIS.

Turtur orientalis (Lath.), Ind. Orn. ii. p. 606 (1790) ; Dresser, vii. p. 45, pl. 463 ; Salvadori, Cat. B. Br. Mus. xxi. p. 403 ; Blanf. F. Brit. Ind. Birds, iv. p. 40 ; *T. rupicola* (Pall.), Zoogr. Ross. As. i. p. 566 (1811) ; David and Oust. Ois. Chine, p. 385 ; Tacz. F. O. Sib. O. p. 733 ; Saunders, p. 487 ; *C. gelastes*, Temm. Pl. Col. 550 (1835) ; id. Schlegel, Faun. Jap. Aves, p. 100, pl. 60 B ; *C. meena*, Sykes, P.Z.S. 1832, p. 149.

Kala-fukhta, *Basko-fukhta*, Hindu. ; *Kiji-bato*, Jap.

♂ *ad.* (Japan). Differs from *T. communis* in being larger and much darker, the forehead dark ashy blue, the rest of head, neck, and upper parts ashy brown, the tips of the black feathers on the sides of the neck,

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and of the tail-feathers ashy blue and not white; under parts brownish vinous, becoming rosy vinous on the middle of the abdomen; bill brown tinged with vinous on the basal half; legs vinous red; iris orange; eyelids pale blue; edges of eyelids red. Culmen 0·8, wing 7·5, tail 5·7, tarsus 1·1 inch.

Hab. South-eastern Siberia; Mongolia; Manchuria; Corea; Japan; the eastern Himalayas and India, north of 15° N. lat. A rare straggler to Europe, having occurred at least twice in Sweden, and once in England.

In habits it does not differ from *T. communis*, but is a resident throughout most of its range. In India the breeding season is from December to April, and in Dauria late in May or early in June, and the 2 white eggs measure about 1·31 by 0·98.

899. Collared Turtle-Dove.

TURTUR DECAOCTO.

Turtur decaocto (Frivaldsky), Balkanyi Termes. Utaz. p. 30, pl. viii. (1838); ? *T. risorius* (Linn.), Syst. Nat. i. p. 285 (1766 partim); Pall. Zoogr. Ross. As. i. p. 565; Dresser, vii. p. 51, pl. 464, fig. 2; David and Oust. Ois. Chine, p. 387; Blanf. F. Brit. Ind. Birds, iv. p. 46; Seebohm, B. Jap. Emp. p. 162; *T. douraca*, Hodg. in Gray's Zool. Misc. p. 85 (1844 *descr. nulla*); Salvadori, Cat. B. Br. Mus. xxi. p. 430; *T. torquatus* (Bogd.), Tr. Sib. Obtsch. Jestestv. xii. p. 9 (1881); Tacz. F. O. Sib. O. p. 736.

Dhor-fakhta, Perki, Panduk, Gugi, Hindu.; *Shirako-bato*, Jap.

♂ *ad.* (Palestine). Head, neck, and breast pale greyish vinous, the crown tinged with blue-grey; upper parts dusty brown, the sides of the rump dove-blue; quills ashy blue at the base, otherwise blackish brown; secondaries and outer coverts dove-blue; middle tail-feathers dusky brown, the rest dove-blue, fading to white towards the tips; a black collar margined with white from the back half round the neck; under parts pale vinous, becoming dove-blue on the lower abdomen and under tail-coverts; flanks washed with blue-grey; bill black; legs and feet pinkish red; iris crimson, orbital skin whitish. Culmen 0·8, wing 7·15, tail 5·7, tarsus 0·95 inch. Sexes alike.

Hab. Turkey, Asia Minor, Asia east to India, Ceylon, China, Mongolia, Manchuria, Corea, Japan, and as far north as the southern Amoor.

Frequents hedges and trees in cultivated localities, and bush and reed jungle, and its note is a deep *kookoo-koo*. Its nest

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is a slight platform of twigs, and is placed on the ground, and its 2 eggs are pure white, and measure about 1·18 by 0·87. It is said to breed in every month from December to August in India.

900. Senegal Turtle-Dove.

TURTUR SENEGALENSIS.

Turtur senegalensis (Linn.), Syst. Nat. i. p. 283 (1766); Salvadori, Cat. B. Br. Mus. xxi. p. 448; Dresser, vii. p. 55, pl. 465; *T. ægyptiacus*, Lath. Ind. Orn. ii. p. 607 (1790).

♂ *ad.* (Egypt). Head and neck purplish pink; back and scapulars warm brown, becoming clay rufous on the inner wing-coverts; lower back, rump, upper wing-coverts and secondaries greyish plumbeous; primaries blackish; upper tail-coverts and middle tail-feathers greyish brown, the rest bluish grey, becoming blackish, and then slate-grey at the end, the outer ones having the terminal half white; a broad collar round the front and sides of the neck black tipped with yellowish coppery; chest pinky vinous, gradually fading into white towards the vent; bill dusky, with a reddish shade towards the base; legs and feet pinkish red; iris orange-red; eyelids lilac-red. Culmen 0·75, wing 5·8, tail 4·7, tarsus 0·85 inch. Female similar, but paler in colour. The young bird is much duller, and lacks the collar.

Hab. Africa from Egypt to the Cape, Socotra, the Canary Islands; Palestine, Greece, and Turkey.

In its general habits it is very sociable and tame, especially in Mohametan countries, where it is never molested, and is found in trees, groves, and gardens. Its nest is a mere platform of sticks or twigs, and is placed in a tree or bush, or even on the ground, and the 2 eggs are pure white, measuring about 1·19 by 0·92, and are generally deposited in March.

901. Indian Brown Turtle-Dove.

TURTUR CAMBAYENSIS.

Turtur cambayensis (Gmel.), Syst. Nat. ii. p. 779 (1788); Dresser, ix. p. 305; Rey, J. f. O. 1875, p. 291 (egg); Salvadori, Cat. B. Br. Mus. xxi. p. 451; Blanf. F. Brit. Ind. Birds, iv. p. 45.

Tortru-fachta, Chota fakhta, Hindu.

♂ *ad.* (India). Differs from *T. senegalensis* in having the upper parts, including the rump, pale dull earth-brown, without any reddish tinge; bill blackish; legs lake-red; iris dark brown with a whitish inner circle. Culmen 0·75, wing 5·7, tail 5·0, tarsus 0·82 inch.

Hab. Turkey, Asia Minor, Transcaspia, Central Asia, and almost the whole peninsula of India.

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In habits it does not differ from *T. senegalensis*, and like that species makes a very slight nest. Its *coo*, is said to be a low subdued, musical, dissyllabic sound, repeated four or five times successively. Its eggs, which, like those of its congeners, are pure white, are deposited late in February or early in March, and vary in size from 0·95 by 0·75 to 1·02 by 0·77.

902. Surat Turtle-Dove.

TURTUR SURATENSIS.

Turtur suratensis (Gmel.), Syst. Nat. i. p. 778 (1788); Salvadori, Cat. B. Br. Mus. xxi. p. 444; Blanf. F. Brit. Ind. Birds, iv. p. 43.

Chitroka fakhta, Hindu.

♂ *ad.* (India). Head and nape vinous, forehead bluish; lower hind neck black closely spotted with white; upper parts brownish spotted with warm buff, the spots fading on the lower back and rump, which latter is tinged with blue; outer edge of wing dove-blue, with long blackish terminal spots; quills and middle tail feathers brown, the other tail feathers blackish slate on the basal and bluish on the terminal half, the two outer feathers on each side white on the terminal half; chin whitish; neck, breast, and upper abdomen rosy vinous, fading to whitish on lower abdomen; under tail-coverts white; bill dull blackish plumbeous; legs dark purplish red; iris dark hazel surrounded by a reddish sclerotic; orbital skin red. Culmen 0·8, wing 5·4, tail 5·3, tarsus 0·85 inch. Female rather smaller. Young duller and lacking the black and white on the hind neck.

Hab. Afghanistan, the Himalaya up to 7,000 feet; India and Ceylon.

Frequents well-wooded districts and gardens, and has a plaintive trisyllabic note. It breeds throughout the year, in Northern India from October to May, placing its slight nest of sticks on a bush or low tree, and lays 2 pure white eggs, which measure about 1·06 by 0·82.

903. Red Turtle-Dove.

TURTUR TRANQUEBARICUS.

Turtur tranquebaricus (Herm.), Obs. Zool. p. 200 (1804); Salvadori, Cat. B. Br. Mus. xxi. p. 437; Blanf. F. Brit. Ind. Birds, iv. p. 47; Seebohm, B. Jap. Emp. p. 163; *T. humilis* (Temm.), Pl. Col. pl. 259 (1824); David and Oust. Ois. Chine, p. 388; Salvadori, tom. cit. p. 434; Tacz. F. O. Sib. O. p. 738; Berez. and Bianchi, Ptitz. Gan-su, p. 29.

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Seroti fakhta, Biki, Hindu.

♂ *ad.* (Burma). Head and nape dove-blue, a black collar round the hind neck; upper parts warm dark vinous red; lower back, rump, upper tail-coverts, and middle tail-feathers slaty blue, the last brownish towards the tip; remaining tail-feathers blackish slate on the basal, and greyish or white on the terminal half; quills brown; chin pinkish white; rest of under parts warm rosy vinous, the under tail-coverts white; bill black; legs vinous brown; iris dark brown; eyelids plumbeous. Culmen 0·68, wing 5·4, tail 4·8, tarsus 0·8 inch. The female is brown above, greyish on the head, rump, flanks, and edge of wing; breast brown tinged with vinous. The young bird is brown and lacks the black collar.

Hab. South-eastern Siberia and Japan (rare); Ala-shan; Kan-su; India, Burma and the Andamans; China, Cochin China, and the Philippines.

Is said to be more shy than its congeners, and though it frequents cultivated localities, it does not approach habitations. It is not unfrequently found in small flocks, and its note is short and deep. Like its congeners it builds a very slight nest of sticks, which is placed on a tree or bush. In India it breeds from January to July and in November, and its 2 eggs are creamy white, and measure about 1·02 by 0·8.

PTEROCLES, Temm., 1815.

904. Black-bellied Sand-Grouse.

PTEROCLES ARENARIUS.

Pterocles arenarius (Pall.), Nov. Com. Petrop. xix. p. 418, pl. viii. (1774); Naum. vi. p. 258, Taf. 153; Gould, B. of E. iv. pl. 257; Dresser, vii. p. 61, pl. 466; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 18; Blanf. F. Brit. Ind. Birds, iv. p. 54.

Cortiçol, Portug.; *Ortega, Corteza,* Span.; *Koudhre,* Arab.; *el Koudri,* Moor.; *Bhat-titar, Bakht,* Hindu.

♂ *ad.* (Spain). Crown, nape, and hind neck ashy pearl-grey; back, scapulars, lesser wing-coverts variegated greyish black and orange-clay colour, the rump rather darker; larger wing-coverts orange-yellow; secondaries marked with orange-yellow on the outer web; primaries slate-grey externally; tail brownish ash tipped with white, the terminal portion indistinctly barred with dark brown; chin and upper throat rusty red, becoming rusty orange on the sides of the neck, below this a large black mark; lower neck and breast isabelline pearl-grey, the latter crossed by a distinct black stripe; abdomen black; bill dull horn-blue;

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tarsus feathered, the feet dull lead-grey; iris brown. Culmen 0·65, wing 9·2, tail 4·1, tarsus 1·3 inch. Female pale sandy ochreous, the head, neck, and upper breast spotted, the upper parts and middle tail-feathers cross-banded with black; sides of head and upper throat clay-yellow, lower throat and breast more rufous; a blackish stripe across the throat and a black band across the lower breast; abdomen black; lower tibia and tarsus ochreous; under tail-coverts dirty white.

Hab. South-western Europe; a rare straggler in other parts of Southern Europe; North Africa; Canaries; South-western Asia to Turkestan, and N.W. India in winter.

Inhabits the plains, especially in sandy desert localities; in Spain it is found in the dry marismas. It is very shy and wary, and extremely swift on the wing, and has a peculiar loud croaking cry. It feeds on seeds of various kinds, and frequents regular drinking places in the mornings and evenings. Its nest is a mere depression scratched in the soil, and its 3 eggs are usually deposited in June, and are elongated oval in shape, light stone-buff marbled with indistinct purplish grey shell-markings, and light brown surface blotches, and measure about 1·85 by 1·30 to 2·00 by 1·35.

905. Coroneted Sand-Grouse.

PTEROCLES CORONATUS.

Pterocles coronatus, Licht. Verz. Doubl. p. 65 (1823); Gould, B. of A. vi. pl. 63; Dresser, ix. p. 313, pl. 700; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 23; Blanf. F. Brit. Ind. Birds, iv. p. 57.

Quata, Arab.

♂ *ad.* (India). Middle of forehead and a small space over the eye creamy white; crown cinnamon, surrounded by a blue-grey band; a black patch on each side of the forehead, chin, and middle of the throat; upper parts sandy isabelline, the scapulars and wing-coverts marked with brown, and with a terminal spot of creamy buff; tail sandy isabelline, all but the middle feathers tipped with white, and with a subterminal black bar; primaries blackish brown; throat, cheeks, ear-coverts, and upper neck yellow; rest of under parts sandy isabelline, the lower throat and fore breast washed with grey; under tail-coverts white; beak and feet plumbeous black; iris brown. Culmen 0·7, wing 7·8, tail 4·0, tarsus 1·1 inch. The female is paler than the male, lacks the black on the head and throat, has the upper parts barred and slightly spotted, and the lower throat and breast narrowly barred with blackish brown.

Hab. Algeria, Tunis; Egypt; Arabia; Syria; Persia; Afghanistan, Baluchistan, and Sind.

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Like its congeners it frequents sandy, desert localities, and is extremely swift on the wing. In its general habits it resembles *P. senegallus*, but its flight and cry, which latter is very loud, are said to differ from those of all allied species. Its eggs, 2 or 3 in number, are deposited in June or July, and are ashy white with a few pale brown markings, and measure about 1·5 by 1·06.

906. Pin-tailed Sand-grouse.

PTEROCLES ALCHATA.

Pterocles alchata (Linn.), Syst. Nat. i. p. 276 (1766); Dresser, vii. p. 67, pl. 467; (Ogilvie Grant), Cat. B. Br. Mus. xxii. p. 7; (Blanf.) F. Brit. Ind. Birds, iv. p. 58; *P. pyrenaicus* (Briss.), Orn. i. p. 195; pl. xix. (1760); (Ogilvie Grant), Cat. B. Br. Mus. xxii. p. 9; *P. setarius* (Temm.) Pig. and Gall. iii. p. 256 (1815); Gould, B. of E. iv. pl. 258.

Ganga cata, French.; *Cortiçol*, Portug.; *Ganga*, Span. and Ital.; *el Guett'-ha*, Arab.

♂ *ad.* (Spain). Crown, nape, and hind neck dark brownish ash-grey washed with yellowish; back and scapulars brownish ash, broadly tipped with golden yellow; primaries bluish ash externally; secondaries dull white on inner and ashy brown margined with white on outer web, the elongated innermost dark brown; smaller outer larger, and median coverts bluish ash at base, then pale dove-blue, then chocolate-red bordered with pale sulphur, and with a narrow black apical border; inner large coverts dark ash, then golden yellow margined with black; rump and upper tail-coverts, and tail light yellowish narrowly barred with black, the elongated middle tail-feathers black on the terminal portion, the rest broadly tipped with white; sides of head warm orange, passing on the neck into olivaceous buff; chin, upper throat, and a broad line behind the eye jet black; a broad chestnut-red band bordered with black passes across the upper breast; rest of under parts white; under tail-coverts blackish grey barred with yellowish and broadly tipped with white; beak dull horn-brown, feet greyish brown; iris dark brown; bare orbital space dull lead-grey. Culmen 0·65, wing 7·3, tail 5·3, tarsus 1·15 inch. The female has the chin and centre of throat white, not black, the upper parts yellowish barred with black and ashy grey, and there are three black bands across the lower throat and breast.

Hab. Southern Europe; North Africa; Asia Minor, east to Central Asia; North-west India in the winter.

In habits this Sand-Grouse does not appreciably differ from *P. arenarius*, and like that bird is wild and shy, flies very swiftly,

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and feeds on seeds, and to some extent also on insects. Except during the breeding season it is found in flocks, and its call-note, *kaat, kaat, ka,* may be heard at a great distance and is generally uttered when the bird is on the wing. The nest is a mere depression in the ground, and the eggs, 2 to 3 in number, are usually deposited in May, and are elongated oval in shape, clay coloured tinged with warm rufous isabelline, with purplish grey underlying shell markings and dark reddish brown surface spots and blotches, and measure about 1·83 by 1·22.

The eastern form has been subspecifically separated from the western form (*P. pyrenaicus*) as being somewhat less brightly coloured and having the submarginal bars on the chestnut wing-coverts white and not yellowish or buff, but I do not find these characters permanent in a series and consequently do not separate the forms.

907. Senegal Sand-Grouse.

PTEROCLES SENEGALLUS.

Pterocles senegallus (Linn.), Mantissa, p. 526 (1771); Gould, B. of A. pl. 62; (Ogilvie Grant), Cat. B. Br. Mus. xxii. p. 14; Dresser, ix. p. 309, pl. 699; (Blanf.), F. Brit. Ind. Birds. iv. p. 61; *P. guttatus* (Licht.), Verz. Doubl. p. 64 (1823).

Fuku, Somdi.; *Kittaviah,* Berber.; *Quata,* Arab.; *Nandu-Katingo, Gutu,* Sind.

♂ *ad.* (Sind). Crown, back, rump, lesser wing-coverts and upper tail-coverts dark isabelline, the last tinged with yellow; sides of crown to below the eye, nape, and hind neck blue-grey; primaries greyish or brownish isabelline; secondaries brown margined with isabelline; larger coverts greyish at base, then warm brown tipped with isabelline; elongated middle tail-feathers yellowish isabelline on basal, dark brown on terminal half, the rest brown at base, then blackish tipped with white sides of head and throat ochreous, the lower throat bluish grey; rest of under parts isabelline, the middle of the abdomen black; under tail-coverts creamy white, but black at the base; bill bluish grey; feet bluish white; iris brown, orbits yellowish. Culmen 0·65, wing 8·0, tail 5·75, tarsus 1·1 inch. The female has the crown, nape, and upper parts, lower throat, and breast isabelline spotted with black, the sides of the head below the eye, chin and upper throat ochreous.

Hab. Algeria, Tunis, Egypt; Arabia, Palestine, east to Persia and Afghanistan; India W. of 73° E. long. and north as far as 33° N. lat.

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Frequents sandy, dry localities, and except during the breeding season keeps together in flocks of from 5 to 50, running about picking up seeds and insects on the dry soil. In the early morning and evening these fly to the drinking places often far distant, and like their congeners are very shy and wary. Their call-note is a peculiar gurgling sound like *Quiddle, quiddle, quiddle.* They nest on the ground in March or April, the 2 to 3 eggs being in ground-colour similar to those of *P. alchata* but much smaller, and the brown surface spots are very faint.

908. Singed Sand-Grouse.

PTEROCLES EXUSTUS.

Pterocles exustus (Temm.), Pl. Col. Nos. 354, 360 (1825); Gould, B. of Asia, vi. pl. 64; (Ogilvie Grant), Cat. B. Br. Mus. xxii. p. 12; (Blanf.), F. Brit. Ind. Birds, iv. p. 60; *P. ellioti*, Bogd. Mél. Biol. xi. p. 54 (1881).

Bhat-titar, Kunartit, Hindu.

♂ *ad.* (Egypt). Head, throat, and upper parts sandy buff or isabelline, the face and neck tinged with yellow, and the back with brown; scapulars and some of the median coverts tipped with reddish brown, some of the larger coverts with a subterminal white spot; quills, primary coverts, and middle tail-feathers blackish brown, the rest of the tail-feathers dark brown tipped with white or buffy white; breast warm buff crossed by a black gorget edged with buffy white; abdomen and flanks dark brown, the middle of abdomen blackish; tarsi, vent, and under tail-coverts pale buff; bill and feet slaty grey; iris dark brown; orbital skin yellowish. Culmen 0·52, wing 7·2, tail 5·3, tarsus 0·85 inch; middle tail-feathers about 2·0 longer than the lateral ones. The female is sandy buff mottled and barred with black on the upper parts; sides of head, throat, and upper breast sandy buff mottled with black on the lower throat; a narrow double black band across the breast; abdomen barred dark brown and rufous, the middle darker.

Hab. North Africa, in the west south to Senegal, in the east to the Pagani River; Palestine, Central Asia, and the chief part of the Peninsula of India.

Like its allies it frequents the open country, where it feeds on seeds and insects, and visits the drinking places in the morning and evening. Its call is a double clucking note, uttered when on the wing, and which may be heard at a considerable distance. It breeds in April in N. Africa, but in India at all seasons, the nest being a small depression in the sand, usually without any lining, but sometimes lined with a little dry grass; the eggs, 3

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in number, are pale buff tinged with salmon pink, with underlying purplish grey and overlying brown surface spots, and measure about 1·45 by 1·5.

SYRRHAPTES, Illig., 1811.

909. Pallas's Sand-Grouse.

SYRRHAPTES PARADOXUS.

Syrrhaptes paradoxus (Pall.), Reise Russ. Reichs. ii. App. p. 712, Tab. F. (1773); Gould, B. of Asia, vi. pl. 60; id. B. of Gt. Brit. iv. pl. 11; Newton, P.Z.S. 1861, p. 397, pl. xxxix. fig. 1 (egg),; Dresser, vii. p. 75, pl. 468; David and Oust. Ois. Chine, p. 389; Newton, Ibis, 1890, p. 207, pl. vii. (pull.); Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 2; Tacz. F. O. Sib. O. p. 740; Saunders, p. 488; Lilford, iv. p. 97, pl. 43.

Fausthuhn, German; *Sirratte*, Ital.; *Steppehöne*, Dan.; *Stepphona*, Swed.; *Hieta-kana*, Finn.; *Stepnaya-Kuritza*, Russ.; *Sha-chee*, Chinese.

♂ *ad.* (E. Siberia). Crown and sides of head dull gold colour; nape greyish buff; across the hind neck a patch of golden orange extending upwards on each side; back, scapulars and rump warm sandy ochreous, the two former boldly, the last narrowly barred with black; primaries bluish grey, the first long and attenuated, the inner ones ochreous tipped; secondaries ochreous on the inner and blackish on the outer webs; wing-coverts sandy ochreous, the larger tipped with foxy red; outer edge of wing spotted with black; tail-coverts and elongated middle tail-feathers ochreous washed with blue-grey, the latter tipped with black; rest of tail-feathers slate-grey tipped with white; under parts delicate dove-buff, tinged with grey fading to dull white on the lower abdomen, legs and feet; upper breast crossed by an irregular black bar and the middle of the abdomen by a broad black band; bill pale horn; iris dark brown. Culmen 0·5, wing 9·0, the first quill 1·1 longer than the second, tail 7·6, the middle feathers 3·6 longer than the rest, tarsus 1·1 inch. The female is duller and greyer, has the crown and nape striped with black, lacks the yellow and orange on the head and neck and the pectoral band, and has the first quill and middle tail-feathers shorter.

Hab. The steppes of Southern Russia, and Asia east to North China, north to Lake Baikal; large flocks have visited Europe at uncertain intervals, and it has been obtained in almost every country, while it has bred in Great Britain and Denmark.

In habits it resembles the other Sand-Grouse, and like them flies very swiftly. It feeds on seeds, and its call-note, which is uttered when the bird is on the wing, is a loud *truck-turuck, truck-turuck*. Its nest is a mere depression in the soil, sometimes lined with a few grass-bents, and the eggs, 3 in number, are

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deposited late in May or early in June, and are stone-buff, often with a greenish tint, marked with purplish brown shell-blotches and dark brown surface-spots, and measure about 1·69 by 1·16. The young bird was taken in Scotland on the 8th of August.

910. Tibetan Sand-Grouse.

SYRRHAPTES TIBETANUS.

Syrrhaptes tibetanus, Gould, P.Z.S. 1850, p. 92; id. B. of Asia, vi. pl. 61; Prjev. Mongol i Strana Tangut. ii. p. 14; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 5; Blanf. F. Brit. Ind. Birds, iv. p. 63.

Stepnaya-kurutza-Tibetskaya, Russ.; *Kuk, Kaling*, Ladak.

♂ *ad.* (Tibet). Forehead, lores, cheeks, and chin whitish slightly speckled with black; crown white irregularly barred with black; sides of head, throat, and a band round the neck deep ochreous yellow; lower neck and breast whitish, narrowly barred with black; upper parts pale fawn, finely vermiculated with black; scapulars spotted with black; quills and larger wing-coverts black; lower back, rump and upper tail-coverts with ground colour whitish; middle tail-feathers tinged with rufous, the long tips black, the rest chestnut tipped with white, and obsoletely barred; lower breast pale greyish brown fading to white on the abdomen; under tail-coverts chestnut, barred with black, and tipped with white; bill bluish; iris brown. Culmen 0·5, wing 10·15, tail 8·0, tarsus 1·1 inch. In the female the markings on the upper parts are much coarser, the whole breast is barred and the middle tail-feathers are shorter.

Hab. Tibet and the Pamir, where it is resident and found in summer at elevations above 12,000 feet, north of Sikhim; Koko-nor in Mongolia, Ládak and the upper Sutlej valley.

Frequents barren, sandy localities, and in habits resembles *S. paradoxus*; frequents sandy plains, where it feeds on seeds of various kinds, and is not shy. Its call-note, which is uttered on the wing, is a loud *caga, caga, caga*. So far as I can ascertain its eggs are unknown.

PHASIANUS, Linn., 1766.

911. Pheasant.

PHASIANUS COLCHICUS.

Phasianus colchicus, Linn. Syst. Nat. i. p. 271 (1766); Naum. vi. p. 433, Taf. 162; Hewitson, i. p. 276, pl. lxviii.; Gould, B. of E. iii. pl. 247; id. B. of Gt. Brit. iv. pl. 12; Dresser, vii. p. 85, pl. 469; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 320; Saunders, p. 499; Lilford, iv. p. 114, pl. 51; *P. c. septentrionalis*, Lorenz, J. f. O. 1888, p. 572.

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Faisan, French; *Fagiano*, Ital.; *Edelfasan*, German; *Fasan*, Swed.; *Madsharski-Petuck*, Russ.

♂ *ad.* (Asia Minor). Head and upper neck black, on the crown and nape glossed with bottle-green, and on the sides of the head, chin, and upper neck with violet-purple; lower neck, breast, and upper back feathers black at the base, then rufescent golden margined with black, some with an apical black spot; scapulars and rest of back coppery purple, most of the feathers with a central buff horseshoe mark; quills dark brown slightly barred with ochreous buff; wing-coverts golden olivaceous varied with ochreous and coppery purple; rump and upper tail-coverts fiery reddish glossed with purple; tail golden olivaceous barred with black; flanks like the breast but more golden orange in tinge; middle of abdomen bluish black; wattles on the sides of the head rich blood-red; legs dull brown; iris dark brown. Culmen 1·2, wing 9·3, tail 18·2, middle feathers 13·5 longer than the outside ones, tarsus 2·7 inch. The female has the upper parts blackish, broadly margined with clay-buff, the neck washed with vinaceous; under parts clay-buff vermiculated with blackish, the black bases showing here and there especially on the flanks and neck; quills and wing-coverts dark brown variegated with clay-buff; tail dull ochreous vermiculated with blackish, the middle feathers blacker and tinged with rufous; wattles absent.

Hab. South-eastern Europe (Greece and Turkey), Asia Minor, north to the Volga, south to the Caucasus, east to Transcaucasia; introduced and naturalised in most parts of temperate Europe.

First introduced into England by the Romans, it is believed, the Pheasant has spread throughout the United Kingdom, and is one of our most esteemed game birds; it inhabits the woodlands and groves, especially where the undergrowth is thick, and damp places, and feeds on grain of various kinds, acorns, beech-mast, and other seeds, berries, and insects, &c. The usual call is a loud *cock, cock, cock*, but the pairing note of the male is a feeble crow, and is followed by a clapping of the wings. The Pheasant is polygamous, and in the spring the males fight for the possession of the females. The nest is a depression in the soil lined with dry grass, roots, and leaves, and the eggs, usually 10 to 12 in number, are uniform pale olivaceous brown in colour, sometimes with a bluish tinge, and measure about 1·79 by 1·40.

It has been known to use a deserted owl's or squirrel's nest for the purpose of nidification, but this is uncommon, it being as a rule, a ground breeder. I have carefully compared specimens of Mr. Lorenz's *P. septentrionalis*, and cannot find any difference between it and true *P. colchicus*.

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912. Subsp. Phasianus talischensis.

Phasianus talischensis, Lorenz, J. f. O. 1888, p. 571 ; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 324.

♂ *ad.* Differs from *P. colchicus* in having the under parts a trifle duller and redder, the blackish margins to the feathers narrower and fewer ; wing-coverts as in *P. colchicus*.

Hab. Lenkoran, and the Alazan river, Transcaucasia.

In habits and nidification this species does not differ from *P. colchicus*.

913. Murghab Pheasant.

PHASIANUS PRINCIPALIS.

Phasianus principalis, Sclater, P.Z.S. 1885, p. 322, pl. xxii. ; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 325 ; Dresser, ix. p. 321, pl. 702 ; "*P. komarovi*, Bogd.," Zarudny, Ois. Transcasp. p. 63 (1885).

Kargooule, Tekke.

♂ *ad.* (Merv). Differs from *P. colchicus* in having the wing-coverts white, the ground colour of the upper parts golden orange, tinged with brick-red on the lower back, rump, and upper tail-coverts ; tail redder, the bars narrower and further apart ; under parts, more especially the breast, richly tinted with peach-carmine. Culmen 1·3, wing 9·4, tail 22·0, tarsus 2·7 inch. The female is much paler than that of *P. colchicus*, the general colour being pale clay-buff, and the dark markings are fewer.

Hab. Transcaspia and Afghanistan, the rivers Murghab, Tedgend, and Dushak, the district of Kaakuk, and along the rivers running from the mountains of Deregez and Keliat to the N. and N.E ; North-eastern Persia.

In habits and nidification it does not differ from *P. colchicus*, and like that species it affects damp wooded localities, and makes its nest on the ground, depositing late in May, 8 to 12, and even, it is said, as many as 18 eggs, which closely resemble those of *P. colchicus*. A specimen in the Tring Museum, labelled *P. kancarowii*, does not differ from typical *P. principalis*.

914. Shaw's Pheasant.

PHASIANUS SHAWI.

Phasianus shawi, Elliot, P.Z.S. 1870, p. 403 ; id. Monogr. Phas. ii. pl. 1 ; Gould, B. of As. vii. pl. 35 ; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 326 ; *P. insignis*, Elliot, P.Z.S., 1870, p. 404 ; id. Monogr. Phas. ii. pl. iii.

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♂ *ad.* (Yarkand). Differs from *P. principalis* in having the white of the wing-coverts slightly tinged with greyish, the upper parts rather redder and less marked with black, the rump slightly tinged with green, the tips of the flank feathers blacker and less purple in tinge, and the carmine-peach tinge on the breast is wanting. Culmen 1·25, wing 9·5, tail 16·5, tarsus 2·55 inch. Sometimes the males of this species have a trace of a white collar. The female resembles that of *P. principalis*.

Hab. The valleys of the Yarkand, Kashgar, Aksu, and Khotan rivers.

In habits this bird does not differ from *P. colchicus*, and eggs in my collection are not distinguishable from those of that species.

915. Persian Pheasant.

PHASIANUS PERSICUS.

Phasianus persicus, Severtzoff, Bull. Mosc. xlviii. pl. 3, p. 208 (1870); Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 324; Dresser, ix. p. 317, pl. 701.

Kargowal Gargaul, Persian.

♂ *ad.* (Transcaspia). Differs from *P. colchicus* in having the feathers on the breast and fore part of the back less rufous and more golden orange in colour, the rump and upper tail-coverts coppery red, the breast and sides of abdomen washed with purplish carmine, the feathers on the flanks with broader purplish black margin, those on the breast with narrower margins, the black bars on the tail much narrower, and the lesser and median wing-coverts nearly white. Culmen 1·2, wing 9·5, tail 19·8, tarsus 2·9 inch. The female is undistinguishable from that of *P. colchicus*.

Hab. The south-east Caspian, the valleys of the Soumbar, Tschandyr and Atrek rivers, Achour-Adé and the peninsula of Potemkine, north to the main portions of the Kopet-dag, Kuerendag, and Zar-i-kouh mountains.

In habits it does not differ from *P. colchicus*, and like that species is a ground breeder, depositing in May 8 to 10 eggs, olivaceous grey-green with a leather-yellow tinge, which measure about 1·67 by 1·43.

916. Subsp. Phasianus zarafschanicus.

Phasianus zarafschanicus, Tarnovski, Field, lxxvii. p. 409 (1891); Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 326; *P. tarnovskii*, Seebohm, P.Z.S. 1892, p. 271.

♂ *ad.* Is nearest allied to *P. persicus* but has the upper parts rather paler, the ground-colour of the whole including the rump and upper tail-

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coverts pale golden orange; under parts rather more boldly barred than in *P. persicus*; a somewhat faintly defined collar on the sides and back of the neck.

Hab. Zarafschan Valley.

This Pheasant frequents the damp reedy parts along the Zarafschan river and frequents the fields and gardens in search of food. Nothing appears to be known respecting its nidification, which doubtless does not differ from that of *P. persicus*.

917. Subsp. Phasianus tarimensis.

Phasianus tarimensis, Prjev. Dritte Reise in Centr. As. &c. p. 95 (1883); Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 327.

♂ *ad.* Wing covers as in *P. colchicus* but rather paler and with a faint greenish grey tinge; back with the ground-colour golden orange, the rump and upper tail-coverts tinged with greenish; tail paler than in *P. colchicus*, under parts with the feathers but faintly margined or tipped with black. Culmen 1·5, wing 9·2, tail 16·5, tarsus 2·55 inch. The female resembles that of *P. shawi*.

Hab. Karaschar in the lower valley of the Tarim river, and the valley of the Tschertsche-Darya to the shores of the Lob-nor.

In habits and nidification this sub-species does not differ from *P. colchicus*.

918. Severtzoff's Pheasant.

PHASIANUS CHRYSOMELAS.

Phasianus chrysomelas, Severtzoff, Bull. Mosc. xlviii. pt. 3, p. 207 (1875); Gould, B. of As. vii. pl. 36; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 327; *P. dorrandti* and *P. oxianus*, Severtz. J. f. O. 1875, p. 225.

♂ *ad.* (Amu-Darya). Differs from *P. shawi* in having the ground colour of the upper parts orange-red, more orange on the upper back, and redder on the lower back, rump, and upper tail-coverts, the mantle-feathers broadly margined with greenish black; bars on the tail very narrow; under parts more boldly marked with glossy greenish black; ground-colour of flanks golden orange. Culmen 1·5, wing 9·3, tail 21·4, tarsus 2·75 inch. The female resembles that of *P. shawi*, but the breast is more boldly spotted with black. Like *P. shawi* the males of this species sometimes have an indication of a white collar.

Hab. The valley of the Amu-Darya.

Does not differ in habits or nidification from *P. colchicus*.

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919. Strauch's Pheasant.

PHASIANUS STRAUCHI.

Phasianus strauchi, Prjev. Mongol. i Strana Tangut. ii. p. 119, pl. xvii. (1876); Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 330.

♂ *ad.* (Kan-su). Upper parts much as in *P. colchicus*, but the lower neck more orange in tinge, the lower back washed with green, the sides of the rump, upper tail-coverts, and margins of the tail-feathers bluish, with a faint greenish tinge; tail more boldly barred than in *P. colchicus*; wing-coverts blue; under parts darker and more bluish purple in tinge. Culmen 1·2, wing 9·7, tail 23·0, tarsus 2·55. The female resembles that of *P. colchicus*, but is rather darker.

Hab. The wooded portions of the Kan-su Mountains to an altitude of 10,000 feet, being most numerous in the Tetunga and Buguk-gol valleys; the mountains of Szechuen.

In habits it does not differ from its allies. It is resident and breeds in Kan-su, the breeding season being from early in April to the middle of July.

A specimen in the Rothschild collection obtained by Berezovski in Kan-su, has the upper parts rather paler and more boldly marked, the tail more purplish grey in tinge, the bars broader; breast and flanks golden orange with narrow black margins to the feathers.

Phasianus decollatus, Swinhoe (P.Z.S. 1870, p. 135), may probably be found within the limits of the Palæarctic area, but I do not find any proof that such is the case. It differs from *P. strauchi* in having the sides and flanks buff instead of orange-red, and from *P. torquatus* in having the wing-coverts blue, the rump bluer, and the white collar very indistinct or wanting.

920. Subsp. Phasianus berezowskyi.

Phasianus berezowskyi, Rothschild, Bull. B. O. Club, xii. p. 20 (1901).

♂ *ad.* (Kan-su). Resembles *P. strauchi* in having the upper wing-coverts blue, but the breast is as in *P. colchicus*, though the dark margins to the golden feathers are narrower; upper parts paler and more yellow in tinge than in *P. colchicus*, the rump and upper tail-coverts blue slightly marked with black, the latter slightly varied with rufous; tail grey and golden grey at the base, washed with rufous on the outer webs, but not so rufous as in *P. strauchi*, and broadly barred with black. Culmen 1·1, wing 7·9, tail 16·9, tarsus 2·3 inch.

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Hab. Kan-su.

In habits and nidification this Pheasant probably does not differ from *P. strauchi*.

921. Vlangal's Pheasant.

PHASIANUS VLANGALI.

Phasianus vlangali, Prjev. Mongol. i Strana Tangut. &c., ii. p. 116, pl. xvi; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 330.

♂ *ad.* (Tsaidam). Differs from *P. strauchi* in having the upper back, scapulars, and least wing-coverts golden orange, the rump and upper tail-coverts bluer, the under parts rather paler, the tail paler, more narrowly barred, and not margined with greenish blue. Culmen 1·45, wing 9·5, tail 19·6, tarsus 2·6 inch. The female resembles that of *P. colchicus* but is paler, and the chin and throat are pure white.

Hab. Tsaidam, west to the Tsaidam marshes, north to the Koko-nor mountains.

Frequents the cane brakes and bush-covered localities, and in winter feeds on berries. It commences nidification very early, sometimes as early as the middle of February.

922. Japanese Pheasant.

PHASIANUS VERSICOLOR.

Phasianus versicolor, Vieill. Gal. Ois. ii. p. 23, pl. 205 (1825); Gould, B. of As. vii. pl. 40; Elliot, Monogr. Phas. ii. pl. ix.; Seebohm, B. Jap. Emp. p. 370; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 334.

Kiji, Jap.

♂ *ad.* (Japan). Wing-coverts blue; crown, nape, lower neck, and entire breast deep glossy green; upper neck rich purple; scapulars orange-red, these and the dorsal feathers with black centres and margined with buff; rump greenish blue; tail greenish grey margined with purplish red, and barred with black; abdomen glossy blue; flanks dark green. Culmen 1·25, wing 9·0, tail 13·0, tarsus 2·5 inch. Female resembles that of *P. colchicus* but is much darker.

Hab. The Japanese Islands except Yezo.

Does not differ from its allies in habits. It nests on the ground, depositing, from the latter part of April to the end of July, 5 to 6 eggs, which resemble those of *P. colchicus* in colour, and measure 1·54 by 1·38. Has been introduced into Europe, and breeds freely with *P. colchicus*.

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923. Mongolian Pheasant.

PHASIANUS MONGOLICUS.

Phasianus mongolicus, Brandt, Bull. Acad. St. Petersb. iii. p. 51 (1844); Gould, B. of As. vii. pl. 41; Elliot, Monogr. Phas. ii. pl. iv.; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 328; *P. brandti*, Rothsch. Bull. B. O. Club, xii. p. 20 (1901).

♂ *ad.* (Turkestan). Upper parts richly glossed with purplish carmine without any trace of golden orange; wing-coverts white with a faint greyish tinge; tail rather darker than in *P. chrysomelas*; under parts more rufous; flanks fiery red barred with greenish black, a conspicuous white collar continued round the back of the neck, but interrupted in front. Culmen 1·5, wing 9·2, tail 22·2, tarsus 2·5 inch. The female resembles that of *P. chrysomelas*, but on the dorsal feathers there is a subterminal black spot and a central bar.

Hab. The valley of the Syr-Darya east to Lake Zaisan, and the valley of the Black Irtisch, south to the valley of the Ili and Issik-Kul.

In habits and nidification it does not differ from its allies. Eggs from Issik-Kul resemble those of *P. colchicus*, but are rather paler and measure about 1·91 by 1·44.

924. Subsp. Phasianus semitorquatus.

Phasianus semitorquatus, Severtz. Ibis, 1875, p. 491; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 329.

♂ *ad.* Differs from *P. mongolicus* only in having the upper parts and breast more glossed with green, and the white collar is smaller and more widely interrupted in the fore neck.

Hab. Dzungaria, north-east of Kuldja and Ebi-nor; Province of Gutchen and Urumtsi.

I do not find anything on record respecting the habits or nidification of this Pheasant.

925. Ring-necked Pheasant.

PHASIANUS TORQUATUS.

Phasianus torquatus, Gmel. Syst. Nat. i. p. 742 (1788); Gould, B. of As. vii. pl. 39; Elliot, Monogr. Phas. ii. pl. v.; David and Oust. Ois. Chine, p. 409; Prjev. Mongol. i Strana Tangut. p. 114; Seebohm, B. Jap. Emp. p. 369; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 331; Tacz. F. O. Sib. O. p. 785; Lilford, iv. p. 116, pl. 57.

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♂ *ad.* (China). Crown and nape olive-buff, the former margined with creamy white; forehead, sides of head, and upper throat black glossed with steel-blue, a white collar encircling the neck broad in front, narrow behind; upper parts pale golden orange varied with black and buff; scapulars and least wing-coverts pale chestnut-red; rump chiefly blue; upper tail-coverts orange, somewhat varied with red; tail paler than in *P. colchicus*; breast and flanks golden orange, the former washed with purple on the sides and slightly marked with glossy blackish, the latter broadly marked with black; wing-coverts chiefly pale bluish white. Culmen 1·5, wing 9·5, tail 19·8, tarsus 2·5 inch. The female is rather smaller, and closely resembles that of *P. colchicus*.

Hab. The lower Amur and the Ussuri country; Mongolia; Manchuria; Corea; Tsusima island in the Strait of Corea; Eastern China south to Canton; has been introduced into Great Britain.

In general habits it does not differ from *P. colchicus*; it frequents bush-covered places and does not perch in the trees except when calling in the spring. It nests on the ground like its allies, and deposits in May, June, and even as late as the beginning of July, from 8 to 12, and even as many as 20 eggs, which closely resemble those of *P. colchicus*. Introduced into England early in the 18th century, and breeds freely with *P. colchicus*.

Mr. Rothschild (Bull. B. O. Club, xii. p. 21) separates the form from N.E. Mongolia, Amur, and Corea, under the name *Phasianus torquatus mongolicus* (Pall.). This form has the inner wing-coverts and scapulars much paler chestnut-red, the rump pale greenish olivaceous, and not blue, and the crown and occiput are browner in tone of colour.

926. Subsp. Phasianus hagenbecki.

Phasianus hagenbecki, Rothschild, Bull. B. O. Club, xii. p. 20 (1901).

♂ *ad.* (Kobdo Valley, N.W. Mongolia). Is nearest allied to the Mongolian form of *Ph. torquatus*, but the crown and occiput are browner, the upper parts paler and less rufous, the rump rather bluer and boldly barred with black, the ground-colour of the tail paler; flanks paler, and with fewer and smaller purplish black markings. Culmen 1·3, wing 9·1, tail 17·2, tarsus 2·2 inch.

Hab. Mongolia.

I find no record of the habits and nidification of this Pheasant, which probably do not differ from those of *P. torquatus*.

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927. Subsp. Phasianus satchuensis.

Phasianus satchuensis, Prjev. Iz Zaisan cherez, Khami v. Tibet, etc., p. 95 (1883); Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 333.

♂ *ad.* Differs from *P. torquatus* in having the wing-coverts bluer, the upper parts paler, the ground-colour being dull orange-buff; rump and upper tail-coverts bluer; bars on the tail narrower; the white collar narrower and interrupted in front. Culmen 1·45, wing 9·5, tail 21·5, tarsus 2·5 inch. Female paler than that of *P. torquatus*.

Hab. Satchen, north of the Nan-Shan Mountains.

Does not differ in habits from *P. torquatus*.

928. Sœmmerring's Pheasant.

PHASIANUS SŒMMERRINGI.

Phasianus sœmmerringi, Temm. Pl. Col. v. pls. 8, 9; Gould, B. of As. vii. pl. 37; Elliot, Monogr. Phas. ii. pl. xii.; Seebohm, B. Jap. Emp. p. 370; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 336.

Yamadori, Jap.

♂ *ad.* (Japan). General colour chestnut with a brownish tinge, the feathers on the upper parts glossed with purplish carmine shot with gold, the basal portions of the feathers black; quills blackish brown mottled with rufous buff; tail very long, rich chestnut, the middle feathers with narrow black bars which are above dark margined, the outer feathers broadly tipped with black; under parts vinous chestnut, paler towards the margins of the feathers. Culmen 1·10, wing 8·6, tail 36·0, tarsus 2·55 inch. The female has the crown blackish brown, the feathers margined with rufous buff, the upper parts rufous buff and cinnamon buff, marked with black; middle tail-feathers rufous mottled with black, the outer ones subterminally barred with black and tipped with white; throat and neck pale buff, the feathers tipped with black; breast and under parts paler and black at base of feathers, tail shorter, only 7·6 inch.

Hab. The islands of Hondo and Kiu-siu, Japan.

Sœmmerring's frequents both the plains and higher portions of the mountains. I do not find any special record of its habits, and, indeed, have very meagre information respecting the range of this, and the next two subspecies in the Japanese Islands.

929. Subsp. Phasianus scintillans.

Phasianus scintillans, Gould, Ann. Mag. N. H. (3) xvii. p. 150 (1866) id. B. of As. vii. pl. 38; Elliot, Monogr. Phas. ii. pl. xiii.; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 337.

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♂ *ad.* (Japan). Differs from *P. sœmmerringi* in being paler and not so red, the feathers on the back margined with golden yellow, those on the lower back, scapulars, wing-coverts, and rump narrowly margined with white edged with black; tail with bars of black margined with buff and buffy white; under parts vinous, varied with black and dull white. Culmen 1·15, wing 9·2, tail 34·0, tarsus 2·7 inch.

Hab. Hondo (Yokohama and Nagasaki).

In habits it does not differ from *P. sœmmerringi*; eggs from Kozugo are uniform creamy white, and measure about 1·81 by 1·36.

930. Subsp. Phasianus ijimæ.

Phasianus ijimæ, Dresser, Ibis, 1902, p. 656.

♂ *ad.* (Kiu-siu). Differs from *P. sœmmerringi* in having the lower back and rump white, only the concealed bases of the feathers being dark, the rest pure white; the dark feathers on the upper parts lack the golden yellow margins, and have narrow, purplish black edges; the under parts are as in *P. sœmmerringi*, but more rufous in tint and less marked with black. Culmen 1·4, wing 8·7, tail 29·0, tarsus 2·4 inch. The female resembles that of *P. scintillans*, but has the upper parts darker, and the middle tail-feathers uniformly coloured without transverse markings.

Hab. The island of Kiu-siu, Japan.

I have no information respecting the habits or nidification of this Pheasant.

CHRYSOLOPHUS, Gray, 1833–4.

931. Golden Pheasant.

CHRYSOLOPHUS PICTUS.

Chrysolophus pictus (Linn.), Syst. Nat. i. p. 272 (1766); Gould, B. of As. vii. pl. 19; (Elliot), Monogr. Phas. pl. xv.; (David and Oust.), Ois. Chine, p. 414; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 339; (Berezov. and Bianchi), Ptitz. Gan-su, p. 17.

Kin-ky, Chinese.

♂ *ad.* (China). Crown, long crest, lower back, and tail-coverts rich yellow; nuchal cape golden yellow margined with glossy bluish black; fore back glossy dark green margined with bluish black; outer secondaries purplish blue; scapulars rich crimson; wing-coverts chestnut mottled with black; some of the lateral tail-coverts scarlet; middle tail-feathers and elongated tail-coverts black, ocellated with warm brown, the latter with the terminal half crimson, the former tipped with pale buff, the outer tail-feathers rufous buff, barred with black;

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chin, upper throat, and middle of lower abdomen warm buff; rest of under parts rich scarlet; bill greenish yellow; legs greenish horn; iris brown. Culmen 1·0, wing 7·7, tail 27·0, tarsus 2·7 inch. The female has the head and upper back brown, barred with buff and black, the lower back, rump and upper tail-coverts paler brown vermiculated with black; under parts buff, the chin and throat paler, the former all but the middle of the abdomen barred with blackish; middle tail feathers brown, irregularly barred with black, the rest more rufous, marked with buff, and barred and mottled with blackish; tail 14·0.

Hab. The mountains of Western and Southern China; Koko-nor; south-east and south-west Kan-su.

Inhabits the woods and the mountains at a moderate altitude, and is a resident throughout its range. I have never seen any eggs but those laid in confinement, which are uniform cream-colour or pale buff, and measure about 1·26 by 1·6.

932. Lady Amherst's Pheasant.

CHRYSOLOPHUS AMHERSTIÆ.

Chrysolophus amherstiæ (Leadb.), Trans. Linn. Soc. xvi. p. 129, pl. 15 (1828); (Gould), B. of As. vii. pl. 20; (Elliot), Monogr. Phas. ii. pl. xiv.; (David and Oust.), Ois. Chine, p. 415, pl. 103; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 342.

Séng-ky, Chinese.

♂ *ad.* (China). Crown, sides of head, and throat blackish bronze-green; elongated occipital crest blood-red; nuchal cape white, margined and barred with black; mantle, scapulars, fore neck, and breast deep green margined with black; lower back and rump black, tipped with dull yellowish, and with a subterminal band glossed with green; upper tail-coverts white, barred with blackish and tipped with red; middle tail-feathers mottled and broadly barred with greenish black, the rest pale buff, barred with black; beak brownish horn, darker at the base; legs bluish grey; iris pale yellow, the bare skin round the eye pale greenish. Culmen 1·2, wing 8·5, tail 35·0, tarsus 3·09 inch. The female resembles that of *C. pictus*, but the naked skin round the eye is as in the male.

Hab. The high mountains of Eastern Tibet, Szechuen, and Yunnan, where it is a resident.

The present species inhabits the wooded portions of the mountains to an altitude of 7,000 to 9,000 feet, and especially the wild bamboo thickets, on the buds of which it feeds. Its eggs (laid in confinement) are rich cream-colour, in size about the same as those of *C. pictus*.

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PUCRASIA, G. R. Gray, 1841.

933. Mongolian Pucras.

PUCRASIA XANTHOSPILA.

Pucrasia xanthospila, Gray, P.Z.S. 1864, p. 259, pl. xx.; Gould, B. of As. vii. pl. 24; Elliot, Monogr. Phas. i. pl. 30; David and Oust. Ois. Chine, p. 407, pl. 104; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 315; Berez. and Bianchi, Ptitz. Gan-su, p. 19.

♂ *ad.* (Kan-su). Median occipital crest olivaceous buff, the long posterior lateral tufts with the sides of head, nape, and throat glossy black; a large white patch on each side of the neck; hind neck to back white, margined with golden buff; lower back and rump grey, striped with black; wings varied with black, buff, and rufous; elongated tail-coverts and middle tail-feathers, margined with chestnut, edged with black, the rest grey subterminally barred with black, and tipped with white; middle of throat, neck, breast and abdomen chestnut-red, the rest of the under parts greyish white, striped with black; under tail-coverts chestnut, tipped with white; bill blackish; legs dark grey; iris brown. Culmen 1·5, wing 8·9, tail 8·0, tarsus 2·5 inch. The female is buff or brown, varied with black and rufous; the crest is short, and the outer tail-feathers are as in the male, otherwise it resembles the female Himalayan *P. macrolopha*.

Hab. N.W. China; Manchuria; Eastern Tibet; Kan-su.

Inhabits the wooded portions of the mountains, where it is found singly or in pairs, and feeds on seeds of various kinds, especially those of conifers. Its habits are similar to those of its congeners, but I find no account of its nidification.

934. Chestnut-bellied Pucras.

PUCRASIA CASTANEA.

Pucrasia castanea, Gould, P.Z.S. 1854, p. 99; id. B. of Asia, vii. pl. 27; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 314.

♂ *ad.* (Kafiristan). Differs from *P. xanthospila* in having the lower neck, upper mantle and under parts rich chestnut-red, the rest of the upper parts paler and greyer, the elongated upper tail-coverts and middle tail-feathers brownish grey, with median black stripes, the latter also marbled with blackish; rest of tail-feathers blackish brown, narrowly tipped with buff; primaries dark brown, externally margined with buff. Culmen 1·2, wing 9·2, tail 9·5, tarsus 2·7 inch.

Hab. Northern Afghanistan and Kafiristan.

Nothing is on record respecting the habits or nidification of this species, and so far as I can ascertain only three specimens are known, the two types in the British Museum, and one in the Stuttgart Museum.

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935. MEYER'S PUCRAS.

PUCRASIA MEYERI.

Pucrasia meyeri, Madarasz, Ibis, 1886, p. 145; Ogilvie Grant, Cat. B. Br. Mus. xii. p. 315.

♂ *ad.* Differs from *P. xanthospila*, in having the breast and abdomen richer chestnut, the upper tail-coverts fawn colour, striped and freckled with black, the middle and tail-feathers rufous, becoming lighter at the tips, with two irregular black lines on each side, margined with fawn colour; outer tail-feathers rich rufous on the outer webs and brownish on the inner margins, banded with black, each feather tipped with pure white. Culmen 1·10, wing 9·84, tail 9·45, tarsus 2·56. The female differs from that of *P. xanthospila* in having the middle tail-feathers rufous, irregularly patched with black, and the rest rich rufous, thinly margined on the inner sides with dusky brown, each feather banded with black and tipped with white.

Hab. Yer-ka-lo, Upper Mekong to Central Tibet.

I have not been able to examine a specimen of this Pheasant.

CROSSOPTILUM, Hodgs., 1838.

936. TIBETAN SNOW-PHEASANT.

CROSSOPTILUM TIBETANUM.

Crossoptilum tibetanum, Hodgs. J. A. Soc. Beng. vii. p. 864, pl. 46 (1838); Elliot, Monogr. Phas. i. pl. 14; David and Oust. Ois. Chine, p. 407, pl. 107; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 293; *C. drouynii*, Verreaux, N. Arch. Mus. Bull. iv. p. 85, pl. iii. (1868); Elliot, Monogr. Phas. i. pl. 15.

♂ *ad.* (Tibet). General plumage pure white; crown glossy black, the feathers short, soft, and curled; outer primaries white on the outer, brown on the inner web; rest of quills brownish grey; tail greyish at extreme base, then rich bronze and purple, naked portion of sides of head scarlet; bill reddish horn; legs red; iris orange yellow. Culmen 2·0, wing 13·4, tail 18·0, tarsus 3·75 inch. Female similar, except that she lacks the spurs.

Hab. The mountains of Western China and Eastern Tibet.

In habits this species is said not to differ from its congeners.

937. WHITE-TAILED SNOW-PHEASANT.

CROSSOPTILUM LEUCURUM.

Crossoptilum leucurum, Scebohm, Bull. Brit. Orn. Club, iv. p. xvii. (1892); Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 294.

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♂ *ad.* Differs from *C. tibetanum* in having the quills pure white, the tail white from the base nearly to the end; the shafts black and tipped with rich purple. Culmen 1·75, wing 13·4, tail 18·0, tarsus 3·2. The female is similar, but has the tail-feathers tipped and margined with dark grey, the middle and outer pairs with the inner webs grey.

Hab. Eastern Tibet, between the Sok Pass, Chiamdo, and Lhassa.

I have no data respecting the habits of this species.

938. Manchurian Snow-Pheasant.

CROSSOPTILUM MANTCHURICUM.

Crossoptilum mantchuricum, Swinhoe, P.Z.S. 1862, p. 286; Gould, B. of As. vii. pl. 22; Elliot, Monogr. Phas. i. pl. 16; David and Oust. Ois. Chine, p. 405, pl. 106; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 294.

Hoky, Chinese.

♂ *ad.* (China). Crown and neck glossy black, gradually fading into the brown of the upper and under parts; rump and upper tail-coverts white; quills brown, the secondaries slightly glossed with purple; the middle tail-feathers brownish grey tipped with purple, the rest rather darker brownish, similarly tipped; chin, upper throat, and elongate, recurved ear-tufts pure white; naked portion of face scarlet, bill light rose colour; legs coral-red; iris orange-yellow. Culmen 1·75, wing 12·9, tail 23·0, tarsus 4·0 inch. Female similar but without spurs.

Hab. The mountains of Manchuria, and Pechi-li, China.

Does not differ from its congeners in habits.

939. Pallas's Snow-Pheasant.

CROSSOPTILUM AURITUM.

Crossoptilum auritum (Pall.), Zoogr. Ross. As. ii. p. 86 (1811); Elliot, Monogr. Phas. i. pl. 17; Prjev. Mongol. i Strana Tangut. ii. p. 121, pl. xx. fig. 1 (egg); David and Oust. Ois. Chine, p. 406, pl. 108; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 295; Berezovsky and Bianchi, Ptitz. Gan-su, p. 24.

Maky-Shandgi, Chinese; *Hara-Takia*, Mongul; *Shariama*, Tangut.

♂ *ad.* (Kan-su). Crown and upper nape velvety black; chin, upper throat, and ear-tufts pure white; rest of plumage slate-grey; quills brownish; middle tail-feathers slate-grey, tipped with deep purple, the six

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pairs of outer ones white, tipped with purplish black; soft parts as in *C. mantchuricum*. Culmen 1·65, wing 12·2, tail 20·5, tarsus 3·5 inch. Female similar but spurless.

Hab. Mountains of North-eastern Szechuen, Eastern Kokonor, South-western Kan-su, and Ala-shan.

Inhabits the wooded districts on the mountains up to 10,000 feet, and is a resident. In the autumn and winter they are generally in small flocks or family parties, but in the spring in pairs. Its call-note or crow is long and disagreeable, not unlike the cry of the Peacock. Nidification takes place in May, when the female deposits from 5 to 7 eggs, which in shape resemble those of the domestic fowl, but are very smooth in texture, uniform pale olive-grey in colour, and measure 2·16 by 1·62.

940. Harman's Snow-Pheasant.

CROSSOPTILUM HARMANI.

Crossoptilum harmani, Elwes, Ibis, 1881, p. 399, pl. xiii.; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 296.

♂ *ad.* Differs from *C. auritum* in having a white band across the back of the head, and no white on the lateral tail-feathers.

Hab. Tibet, 150 miles east of Lhassa.

Nothing is known respecting the habits of this species and the only specimen known is the type, now in the British Museum, which is in an advanced state of decay.

LOPHOPHORUS, Temm., 1813.

941. Monâl.

LOPHOPHORUS REFULGENS.

Lophophorus refulgens, Temm. Pig. and Gall. ii. p. 355 (1813); Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 278; Blanford, F. Brit. Ind. Birds iv. p. 96; *L. impeyanus*, Gould, Cent. Himal. B. pls. 60, 61 (1832 nec. Lath.); id. B. of As. vii. pl. 53; Elliot, Monogr. Phas. i. pl. 18.

Lont ♂, *Ham* ♀, Kashmir.

♂ *ad.* (Himalaya). Head, crest of spatulate feathers, bend of wing and upper tail-coverts rich metallic green; back and sides of neck copper-bronze, becoming bronze-green on the upper back; interscapulary region, scapulars, wing-coverts, and rump rich metallic purple, in parts glossed with blue-green; lower back white; quills brownish black; tail pale

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rufous, becoming darker towards the end ; under parts black ; the throat and under tail-coverts glossed with golden green ; bill dark horn ; legs dull ashy green ; naked orbits blue ; iris brown. Culmen 2·0, wing 12·5, tail 9·5, tarsus 3·1 inch. The female is brown, the head and neck above and on the sides, upper back, and wing-coverts black, streaked and mottled with buff ; lower back and rump buff, barred with black, the upper tail-coverts partially tipped with white ; tail broadly barred with rufous buff ; chin and throat white ; rest of under parts blackish brown, speckled and streaked with buffy white.

Hab. The Himalaya from Afghanistan to Bhutan from 8,000 to 15,000 feet in summer and in winter as low as 4,500 feet.

Inhabits the upper portions of the hill forests, and is generally seen singly or in twos or threes, the females collecting together more than the males. It feeds on insects, seeds, berries, leaves, etc., and its call is a loud plaintive whistle. Its nest is a mere depression in the ground under a bush, rock, or stone, a tuft of grass, or a tree trunk, and in May or early in June it deposits 4 to 6 eggs, which resemble those of the Turkey, being buffy white, thickly and coarsely freckled with reddish brown, and measure about 2·55 by 1·78.

942. Chinese Monâl.

LOPHOPHORUS LHUYSI.

Lophophorus lhuysi, Verr. Bull. Soc. d'Accl. 2nd ser. iv. p. 706 (1867) ; Sclater, P.Z.S. 1868, p. 1, pl. 1 ; Elliot, Monogr. Phas. i. pl. 19 ; Gould, B. of Asia, vii. pl. 54 ; David and Oust. Ois. Chine, p. 403, pl. 110 ; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 281 ; Berez. and Bianchi, Ptitz. Gan-su, p. 22.

Pae-mou-ky, *Ho-than-ky*, Chinese.

♂ *ad.* (Moupin). Differs from *L. refulgens* in having the upper mantle dark red-golden, the lower mantle bronze-purple, glossed with blue-green, the crest composed of ordinary feathers and purple-bronze, the tail black spotted with buff, the margins of the feathers broadly glossed with bottle-green, the rump white ; soft parts as in *L. refulgens*. Culmen 2·1, wing 13·0, tail 12·5, tarsus 3·0 inch. The female differs from that of *L. refulgens* in having the lower back white.

Hab. The more elevated portions of the mountains of Moupin, Szechuen, Eastern Koko-nor, South-west Kan-su ; probably also Yunnan and E. Tibet.

In habits it resembles *L. refulgens*, and also lives at high altitudes. It feeds on vegetable matter, especially on succulent

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roots. It is very shy and wild, and its cry, which is uttered in the early morning and during rain, consists of three or four shrill detached notes. At night it roosts in a tree.

ITHAGENES, Wagl., 1832.

943. Blood-Pheasant.

ITHAGENES CRUENTUS.

Ithagenes cruentus (Hardw.), Trans. Linn. Soc. xiii. p. 237 (1822); Gould, B. of As. vii. pl. 43; Elliot, Monogr. Phas. ii. pl. 30; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 268; Blanf. F. Brit. Ind. Birds, iv. p. 103; David and Oust. Ois. Chine, p. 558.

Chilimè, Nepal.; *Semo*, Bhot.; *Sumong*, Lepch.

♂ *ad.* (Sikhim). Forehead and space round the eye to ear-coverts black; crest white and grey, tinged with warm buff on the crown; upper parts slate-grey, the mantle with buffy white shaft-stripes; rest of the upper parts similar, but the stripes edged with black and the scapulars and wing-coverts washed with green; quills brown; tail brown at base, fringed with crimson, and whitish at tip; chin and upper throat crimson; rest of fore neck greenish white, margined with black; under parts to lower abdomen pale green, margined with darker green; lower abdomen like the back; under tail-coverts scarlet, tipped with white; bill black; cere, gape, orbital skin, and legs red; iris brown. Culmen 0·9, wing 8·5, tail 7·0; tarsus 2·9 inch. The female is brown, finely vermiculated with black, the head, neck, and upper throat paler and yellower, the under parts paler and more rufescent.

Hab. The higher ranges of the Himalayas in Nepal, Sikhim, and Bhutan, east to China; Tibet.

Inhabits the pine-forests at from 10,000 to 14,000 feet elevation, and is said to feed on the tender shoots of the pine and juniper, and on the berries of the latter, leaves, seeds, small fruits, &c. It has a peculiar long call, resembling the squeal of a Kite, and a shorter monosyllabic call-note. It is by no means shy, but very averse to take wing. In the autumn it is found in small flocks or family parties. Nothing appears to be known respecting its nidification.

944. Chinese Blood-Pheasant.

ITHAGENES SINENSIS.

Ithagenes sinensis, David, Ann. Sc. Nat. 5th ser. xviii. art. 5, p. 1 (1874); David and Oust. Ois. Chine, p. 402, pl. 114; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 270; Berez. and Bianchi, Ptitz. Gan-su, p. 15; *I. geoffroyi*, Prjev. Mongol. i Strana Tangut. ii. p. 122 (1876, nec. Verr.).

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Hoa-ky, *Sony-hoa-ky*, Chinese; *Sermun*, Mongol.

♂ *ad.* (Kan-su). Differs from *I. geoffroyi* in having the crest, throat, and neck much paler and greyer, the sides of the crest brownish black, the inner secondaries and wing-coverts washed with golden buff, not green, and the tail rather darker and greyer. Culmen 0·9, wing 8·5, tail 6·0, tarsus 2·5 inch. The female resembles that of *I. cruentus*, but has the upper parts paler, the chin and throat whitish grey, and the under parts pale brownish buff, but slightly vermiculated on the breast.

Hab. South-west Kan-su; the Nan-shan Mountains and the Sinling Mountains between Shansi and Honan.

In habits this Pheasant does not differ from its allies, and also inhabits the woods and bamboo-thickets at considerable elevations in the mountains.

945. Grey-necked Blood-Pheasant.

ITHAGENES GEOFFROYI.

Ithagenes geoffroyi, Verr. Bull. Soc. d'Acclim. (2nd ser.), iv. p. 706 (1867); Gould, B. of As. vii. pl. 42; Elliot, Monogr. Phas. ii. pl. 31; David and Oust. Ois. Chine, p. 401, pl. 113; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 269.

Tsong-ky, Chinese.

♂ *ad.* (Moupin). Differs from *I. cruentus* in having the crown, crest, and throat slate-grey, much more green on the wings, the sides and flanks green, the breast and middle of abdomen slate-grey, and the tail much paler. Culmen 0·9, wing 9·2, tail 7·0, tarsus 1·5 inch. The female is greyer above than that of *I. cruentus*, has the head, chin, and throat brownish, the tail more mottled and slightly margined with crimson.

Hab. Eastern Tibet, Eastern Szechuen, and the Mantzes country.

Inhabits the more elevated mountain forests, and is said to perch on the trees, and to feed on seeds, buds, and moss. Its note is a prolonged, clear, but not loud, whistle. Nothing appears to be on record respecting its nidification, but eggs in the British Museum said to belong to this species are elongate oval in shape, smooth in texture of shell, blotched with dark reddish brown on a pale reddish buff ground, and measure from 1·85 to 2·05 in length, and from 1·25 to 1·3 in breadth.

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CACCABIS, Kaup, 1829.

CACCABIS SAXATILIS.

946. Greek Partridge.

Caccabis saxatilis (Wolf and Meyer), Naturg. Vög. Deutschl. p. 87, pl. 48 (1805); (Naum.), vi. p. 546, Taf. 164; (Gould), B. of E. iv. pl. 261, fig. 2; Dresser, vii. p. 93, pl. 470, fig. 1; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 111; *C. græca* (Steph.), in Shaw's Gen. Zool. xi. p. 346 (1819).

Bartavelle, French; *Cortornice*, Ital.; *Steinhuhn*, German.

♂ *ad.* (Switzerland). Forehead, feathers round the base of the bill, lores, and a stripe passing through the eye down the sides of the neck, where it broadens and joins in front, black; crown and upper parts including the scapulars and inner secondaries dove-blue, the nape tinged with vinous buff, the back washed with warm vinous, and the scapulars and inner secondaries with buffy brown; quills dark brown, externally ochreous; middle tail-feathers dove-blue, the rest dove-blue at the base, otherwise fox-red; chin and throat white; breast-feathers dove-blue edged with pale buff; abdomen and under tail-coverts warm ochreous; flank-feathers dove-blue crossed by a black, then a white, and then a black, band, and slightly tipped with chestnut-red; bill, legs, and edge of eyelid coral-red; iris dark brown. Culmen 0·85, wing 6·4, tail 3·9, tarsus 1·7 inch. Sexes alike.

Hab. The mountains of Southern Europe, the Eastern Pyrenees, the Alps, Apennines, Carpathians, and Balkans; Sicily.

Inhabits stony, mountainous regions, only descending when driven down by stress of weather. As a rule it is tame and unsuspicious, but very quarrelsome during the breeding season. Its note resembles the syllables *kakabi, kakabet* uttered several times in succession, and also *cok, cok, cokroo* also several times uttered. It feeds on grain, seeds, tender shoots, and insects. It nests on the ground amongst the rocks, the nest being merely a depression lined with a few leaves and grass-bents. The eggs, which are deposited late in May or in June, vary in number from 8 to 18 or even sometimes more, and are very finely marked with reddish yellow on a pale yellowish ground; in size they measure about 1·59 by 1·19.

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947. Chukar Partridge.

CACCABIS CHUCAR.

Caccabis chucar (Gray), Ill. Ind. Zool. i. p. 54 (1830–32); (Gould), Cent. B. Himal. pl. 71 (1832); Dresser, vii. p. 97, pl. 470, fig. 2; David and Oust. Ois. Chine, p. 395; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 113; Blanf. F. Brit. Ind. Birds, iv. p. 131; *C. pallescens*, *arenarius* and *pallidus*, Hume, Lah. to Yark. pp. 283, 284 (1873).

Kurotschka, Russ.; *Kabk*, Persian; *Chukar*, Hindu.

♂ *ad.* (Rhodes). Differs from *C. saxatilis* in having the upper parts paler, more rufous and less grey in tinge, the auriculars marked with rufous, the chin and throat yellowish buff and not white, and the lores buffy white and not black. Culmen 1·0, wing 6·4, tail 3·8, tarsus 1·85 inch.

Hab. South-eastern Europe; the Ionian Islands; Palestine; Asia Minor and Central Asia, east to Turkestan, Mongolia, Tibet, and China, south to the Punjab in India.

Frequents similar localities to *C. saxatilis*, which it closely resembles in habits, but in India it is found on open hillsides, amongst bushes and grass, and in cultivated fields. It breeds from April to August, its eggs being somewhat similar to those of *C. saxatilis*, but the spots are more rufous and as a rule somewhat larger. In size they vary from 1·50 by 1·17 to 1·62 by 1·22.

948. Mongolian Partridge.

CACCABIS MAGNA.

Caccabis magna, Prjevalsky, Mongol. i Strana Tangut. etc. ii p. 127 (1876); Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 120.

♂ *ad.* Differs from *C. saxatilis* in being considerably paler, the general colour being pale sandy isabelline, the black collar rather narrow with an outside margin of rusty red. Culmen 1·0, wing 7·4, tail 4·8, tarsus 1·65 inch.

Hab. The Southern Koko-nor mountains, the Tsaidam plains, and Northern Tibet.

In habits it does not differ from *C. chucar*, but is said to be more silent. When taking wing it utters a peculiar hollow note, something like *cuta-cuta*, different from the call of *C. chucar*. Nothing appears to be on record respecting its nidification.

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949. Red-legged Partridge.

CACCABIS RUFA.

Caccabis rufa (Linn.), Syst. Nat. i. p. 276 (1766); (Hewitson), i. p. 282, pl. lxxi. fig. 2; Dresser, vii. p. 103, pl. 471, fig. 1; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 118; Saunders, p. 503; Lilford, iv. p. 120, pl. 53; *C. rubra* (Temm.), Pig. and Gall. iii. p. 361 (1815); (Naum.), vi. p. 563, Taf. 165, figs. 1, 2; (Gould), B. of E. iv. pl. 260; id. B. of Gt. Brit. iv. pl. 14.

Perdrix rouge, French; *Perdiz*, Portug. and Span.; *Pernice*, Ital.; *Rothfeldhuhn*, German.

♂ *ad.* (England). Differs from *C. saxatilis* in having only the forehead and fore crown ash-grey, the hind crown, nape, hind neck, and upper parts being reddish brown, the wing-coverts, lower back and scapulars tinged with grey; below the black band, which encloses the white throat, the lower neck is greyish white, spotted and splashed with black; the four middle tail-feathers like the back, the rest deep fox-red. Culmen 0·75, wing 6·0, tail 3·65, tarsus 1·7 inch. Sexes alike.

Hab. Western and Southern Europe; Britain (introduced); Madeira, Azores, and Canaries; Elba, Corsica, and the Balearic Islands.

Much more shy and restless than the common Partridge, it frequents heavy soil and wild heaths, and as it runs before the dogs was by no means a favourite with old-fashioned sportsmen. It also sometimes perches on trees, and its cry is *chuck, chuck, chuck, ker, kerr.* Its nest is placed on the ground, and its eggs, which are usually deposited in May, are yellowish buff or stone buff, faintly spotted with rufous, or pale purplish pink, and measure about 1·63 by 1·22.

950. Barbary Partridge.

CACCABIS PETROSA.

Caccabis petrosa (Gmel.), Syst. Nat. i. p. 758 (1788); (Gould), iv. pl. 261, fig. 1; Dresser, vii. p. 111, pl. 471, fig. 2; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 120.

Pernice di Sardegna, Ital.; *El Hedjel*, Moor.

♂ *ad.* (Sardinia). Differs from *C. rufa* in having the crown, nape, and hind neck rich chestnut-red, the sides of the head above and below the eye and the throat bluish ash; the collar, which is broad on the sides and

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narrow in the middle, rich chestnut-red spotted with white; throat below the collar bluish ash; outer scapulars and some of the wing-coverts deep bluish ash broadly margined with chestnut; soft parts as in *C. rufa*. Culmen 0·9, wing 6·1, tail 3·75, tarsus 1·85 inch.

In habits it does not differ from *C. rufa*, and its eggs, 10 to 15 in number, are deposited in April and resemble those of *C. rufa*, but are as a rule more richly marked with rufous.

AMMOPERDIX, Gould, 1851.

951. Seesee Partridge.

AMMOPERDIX BONHAMI.

Ammoperdix bonhami (Fraser), P.Z.S. 1843, p. 70; Gould, B. of A. vii. pl. 1; Dresser, vii. p. 117, pl. 472; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 123; Blanf. F. Brit. Ind. Birds, iv. p. 133; *A. grisogularis* (Brandt), Bull. Acad. St. Petersb. 1843, p. 278.

Sisi, Hindu.

♂ *ad.* Crown ashy blue-grey, tinged with vinous behind; forehead and a line passing over and behind the eye black; lores and ear-coverts silky white, the latter rufous posteriorly; upper parts pale isabelline grey, indistinctly barred and freckled with darker grey and creamy brown; primaries dark brown, the outer web barred with buffy white; middle tail-feathers like the back, the rest chestnut-red, becoming greyish towards the tip; chin, sides of head, and throat blue-grey; sides of neck ashy grey spotted with white; breast pale vinous; flank-feathers vinous grey margined with black and rich rufous, forming stripes; abdomen greyish white tinged with pale rufous; under tail-coverts pale rufous; bill orange; legs wax-yellow; iris orange-brown. Culmen 0·62, wing 5·15, tail 2·5, tarsus 1·25 inch. The female lacks the blue-grey, white and black on the head, is generally browner and more variegated with rufous buff; breast and flanks rufous buff narrowly barred with dark grey; abdomen and under tail-coverts buffy white.

Hab. The Euphrates valley, south to Aden; Transcaspia, Persia, Afghanistan, Turkestan, Baluchistan, and all the ranges of the Punjab and Sind, west of the Indus; is said by Gould to occur in Tibet.

Affects bare stony and rocky localities in the hills, and is never found in the woods or amongst bushes. Generally it is found in pairs and only occasionally in winter in small coveys. Its flight resembles that of the Quail, and when it rises it utters a whistling note, but the ordinary note is a double one repeated

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several times. It breeds from April to June, making a slight nest on the ground often under a bush or between stones. The eggs, 8 to 12, are creamy white, and measure about 1·40 by 1·0

FRANCOLINUS, Steph., 1819.

952. FRANCOLIN.

FRANCOLINUS VULGARIS.

Francolinus vulgaris, Steph. in Shaw's Gen. Zool. xi. p. 319 (1819); Gould, B. of E. iv. pl. 259; Dresser, vii. p. 123, pl. 473; Blanf. F. Brit. Ind. Birds, iv. p. 135; *Tetrao francolinus*, Linn. Syst. Nat. i. p. 275 (1766); (Ogilvie Grant), Cat. B. Br. Mus. xxii. p. 132.

Francolino, Ital.; *Turatz*, Turkish; *Durraj*, Persian; *Kulatitar*, Hindu.

♂ *ad.* (Asia Minor). Crown and nape-feathers brown with blackish centres; sides of hind crown and lower nape marked with white; sides of head black with a long white patch below and behind the eye; a broad chestnut-red collar round the neck; chin, throat, neck, and breast otherwise deep black, spotted with white on the hind neck; upper parts blackish brown varied with bright ochreous and whitish ochreous; rump, upper tail-coverts, and tail black barred with white; quills blackish brown barred with reddish ochre; flanks black spotted with white; abdomen rufous varied with white; under tail-coverts chestnut tipped with white; bill black; legs reddish orange; iris brown. Culmen 1·0, wing 6·9, tail 4·1, tarsus 2·2 inch. The female is much paler and duller, the chestnut collar is restricted to a patch on the hind neck, the rump and upper tail-coverts brown barred with brownish buff; sides of head buffy white; chin and upper throat white; rest of under parts buffy white barred and blotched with blackish brown; under tail-coverts chestnut marked with pale brown and black.

Hab. Cyprus, Palestine, Asia Minor, Armenia, Persia, India east and south to Manipur; now extinct in Sicily.

Frequents grassy places and scrub near cultivation, and also cultivated ground, and feeds on grain, seeds, and insects. The note of the male is five syllabled, harsh, and not unlike the crow of a Pheasant. It breeds, in India, from May to August, usually in June, and deposits 6 to 10 eggs, making a loosely constructed nest of straw, grass, roots, or leaves, placed on the ground. The eggs are of a uniform warm drab, buffy brown, or stone-colour, and measure 1·56 by 1·28.

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953. Senegal Francolin.

FRANCOLINUS BICALCARATUS.

Francolinus bicalcaratus, Linn. Syst. Nat. i. p. 277 (1766); Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 160; Dresser, ix. p. 325, pl. 703; *Perdix senegalensis*, Bonn. Tabl. Encycl. and Méth. i. p. 212, pl. 93, fig. 2 (1791).

Hadjel el Sahâra; *Rarâgh*, Arab.

♂ *ad.* (Morocco). Fore crown and a stripe on each side black; rest of crown reddish brown; superciliary stripe, space in front of the eye and sides of the head white, the last striped with blackish; hind neck and fore back varied black and rufous and margined with creamy white; upper parts brown, vermiculated with black, the scapulars and wing-coverts with a submarginal creamy white stripe; quills and tail dark brown, the former barred, the latter clouded and irregularly barred with warm and rufous buff; chin and upper throat white; breast and under parts buff, with a drop-shaped black median spot, barred with buff, and basally bordered with chestnut, the last wanting on the lower flanks and under tail-coverts; bill greenish at the base, otherwise yellow; legs dull greenish yellow; iris brown. Culmen 1·15, wing 7·3, tail 3·25, tarsus 2·6; the male has two pairs of spurs on the legs. Sexes otherwise alike.

Hab. West Africa from the Niger to the Mogador coast; Casa Blanca and as far north in Morocco as Rabât.

But little is on record respecting the habits of this Francolin, which is said to frequent grass lands, and, except during the breeding season, goes in coveys of 5 to 12 individuals. I find no record of its nidification, but possess two eggs laid in an aviary, which are dull in texture, uniform creamy buff in colour, and measure 1·86 by 1·40 and 1·92 by 1·43.

PERDIX, Briss., 1760.

954. The Partridge.

PERDIX CINEREA.

Perdix cinerea, Lath. Ind. Orn. ii. p. 645 (1790); Naum. vi. p. 478, Taf. 163; Hewitson, i. p. 281, pl. lxxi. fig. 1; Gould, B. of E. iv. pl. 262; id. B. of Gt. Brit. iv. pl. 13; Dresser, vii. p. 131, pls. 474, 475; Saunders, p. 501; Lilford, iv. p. 118, pl. 52; *P. damascena*, Briss. Orn. i. p. 223 (1760); Ogilvie Grant, op. cit. p. 192; *Tetrao perdix*, Linn. Syst. Nat. i. p. 276 (1766); (Ogilvie-Grant), op. cit. p. 185.

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Perdrix grise, French; *Starna*, Ital.; *Rebhuhn*, German; *Patrijs*, Dutch; *Agerhöna*, Dan.; *Raphöna*, Norweg.; *Rapphöna* Swed.; *Turkinpyy*, *Peltopyy*, Finn.; *Kouropatka*, Russ.

♂ *ad.* (England). Crown, nape, and ear-coverts warm brown; forehead, a broad stripe over the eye, sides of the head, chin, and upper throat orange chestnut; hind neck and upper parts brownish grey, vermiculated with reddish brown and dark brown, the wing-coverts marked with chestnut, and with a central ochreous shaft stripe; rump and upper tail-coverts banded with chestnut; tail chestnut-red, the middle feathers buffy and vermiculated with brown towards the tip; lower throat and breast pale blue-grey, vermiculated with dark grey; on the lower breast a dark chestnut horseshoe patch; flanks barred with chestnut; lower abdomen and thighs greyish white; under tail-coverts yellowish buff, vermiculated with dark greyish; legs and feet bluish grey, with a brown tinge; bill bluish white; iris hazel-brown. Culmen 0·75, wing 6·1, tail 3·95, tarsus 1·75 inch. The female is rather smaller, has the upper parts darker and browner, the light chestnut on the throat covers a smaller area, the horseshoe pectoral band is either wanting or much smaller, and the wing-coverts have buff cross-bars.

Hab. Temperate Europe generally, north to central Scandinavia and Great Britain, south to the Mediterranean; Asia east to the Altai and Northern Persia.

Frequents open, cultivated ground or heaths and commons, not woodlands, and except during the breeding season is found in coveys. Its flight is strong, with a loud whirring sound, and it is essentially a ground bird, never perching on a tree, and its call-note is *kertchup*, *kertchup*. It nests also on the ground, lining a depression in the ground with a few dry straws or grass-bents, and in May deposits 12 to 16 sometimes even more eggs, which are uniform pale olivaceous brown, and measure about 1·43 by 1·07.

955. Daurian Partridge.

PERDIX DAURICA.

Perdix daurica (Pall.), Zoogr. Ross. As. ii. p. 78 (1811); David, N. Arch. Mus. Bull. iii. p. 38; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 192; *P. barbata*, Verr. and Desm. P.Z.S. 1863, p. 62, pl. ix.; Gould, B. of As. vi. pl. 73; Tacz. F. O. Sib. O. p. 776.

Kouropatka-boradataya, *Kamenoi-Riabtschik*, Russ.

♂ *ad.* (Dauria). Differs from *P. cinerea* in having the chin, throat, sides of the head and the breast warm golden ochreous, the feathers on the side of the throat elongated, and the pectoral horseshoe-shaped patch deep black. Culmen 1·0, wing 6·0, tail 3·4, tarsus 1·45 inch.

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Hab. Central and Eastern Asia; north and east to Dauria and the southern Baikal, west to the Altai; Yenesei and Russian Dzungaria; Eastern Turkestan; Mongolia, Manchuria, Tibet, and Northern China.

In habits it does not differ from *P. cinerea*, and its nest and eggs are similar, but the latter, which are usually deposited early in June, are somewhat smaller, measuring about 1·35 by 1·03.

956. Tibetan Partridge.

PERDIX HODGSONIÆ.

Perdix hodgsoniæ, Hodgson, J. A. S. Beng. xxv. p. 165. and pl. (1857); Gould, B. of As. vi. pl. 74; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 193; Blanf. F. Brit. Ind. Birds, iv. p. 142.

Sakpha, Tibetan.

♂ *ad.* (Ladak). Forehead buffy white, edged with black before and behind; crown deep chestnut, washed with white; lores, supercilium, and cheeks buffy white; sides of and lower hind neck foxy red with grey margins to the feathers, forming a collar; upper parts, wings and tail as in *P. cinerea*; chin and upper throat white, with a buff tinge; sides of head below the eye, and nearly meeting the front, black, below which is a white band; under parts whitish, barred down to the lower abdomen with black, and a black patch on the middle of the body; flanks washed with rufous; bill and legs horn-green; orbital skin reddish. Culmen 0·9, wing 6·4, tail 3·4, tarsus 1·6 inch. Sexes alike.

Hab. Tibet north of Sikhim and Nepal and as far west as Hanle, at 14,000 to 18,000 feet elevation; Kashmir.

In habits it is said to resemble *P. cinerea*, and the eggs are pale drab, with a faint reddish brown tinge over the large end, and at the point of the smaller end, and measure 1·77 by 1·2.

957. Kansu Partridge.

PERDIX SIFANICA.

Perdix sifanica, Prjevalsky, Mongol. i Strana Tangut. &c., ii. p. 124 (1876); Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 195; Berez. and Bianchi, Ptitz. Gan-su, &c. p. 13.

♂ *ad.* (Kan-su). Differs from *P. hodgsoniæ* in lacking the black patch on the under surface of the body, and those on the sides of the head are reduced to a smallish patch below the eye. Culmen 0·9, wing 5·55, tail 3·0, tarsus 1·6 inch.

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Hab. The alpine regions of south-west Kan-su, the Amdos plateau, the Nan-shan and Si-ning Mountains and Northern Tibet.

In habits it is said to resemble *P. daurica*, but its call-note is harsher, and when taking wing it utters a more squeaking and louder note than that bird. It is not found lower than about 10,000 feet above the sea level. It breeds in May, the number of eggs being about 15, these being similar to those of *P. hodgsoniæ*.

COTURNIX, Bonn., 1790.

958. THE QUAIL.

COTURNIX COMMUNIS.

Coturnix communis, Bonnaterre, Tabl. Encycl. Méth. i. p. 217 (1790); Gould, B. of Gt. Brit. iv. pl. 15; Dresser, vii. p. 143, pl. 476; Blanf. F. Brit. Ind. Birds, iv. p. 114; Saunders, p. 505; Lilford, iv. p. 121, pl. 54; *Tetrao coturnix*, Linn. Syst. Nat. i. p. 278; (Naum.), vi. p. 576, Taf. 166; (Ogilvie Grant), Cat. B. Br. Mus. xxii. p. 231; *C. vulgaris*, Bout. Orn. Dauph. p. 72, pl. 43, fig. i. (1843); Hewitson, i. p. 284, pl. lxxii.

Caille, French; *Codorniz*, Portug. and Span.; *Quaglia*, Ital.; *Wachtel*, German; *Kwartel*, Dutch; *Vagtel*, Dan. and Norweg.; *Vaktel*, Swed.; *Peltopyy*, Finn.; *Perepelka*, Russ.; *Bildertschin*, Persian; *Bater*, Hindu.

♂ *ad.* (England). Crown and nape blackish brown, variegated with rufous buff, and with a central and two lateral buff lines; upper parts warm light brown, broadly marked with dark brown and black, and with long dashes of light buff; wings and tail brown, barred with buff; sides of head pale brown; throat and sides of neck buffy white; a black patch on the chin, a black band at the base of the throat, and a rufous band below; sides of neck washed with rufous; breast pale rufous dashed with white; rest of under parts buffy white, the flanks rufous with buff central stripes; bill brownish horn; legs fleshy brown; iris brown. Culmen 0·5, wing 4·15, tail 1·6, tarsus 1·1 inch. The female has the chin and throat buffy white, unmarked with black, and the breast reddish buff, spotted with blackish brown.

Hab. Europe generally, breeding north to Scandinavia and Britain, and south to North Africa, migrating into South Africa in winter; Asia Minor and Asia, north to Siberia and south to India in winter; not occurring in South-eastern Asia; in South Africa and the islands off the African coast it is replaced by a closely allied form, *C. capensis*, Licht., which, in the

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male, has the throat bright rufous chestnut with a black anchor-shaped mark down the middle.

Is chiefly migratory throughout its range, and is a less gregarious bird than the Partridge, but when migrating they collect in vast flocks. Its flight is swift, whirring and direct, and its food consists of seeds, grain, and insects. Its note is a short harsh and deep prelude *rowow*, followed by a loud *pickernic* or *wet-my-lips*, or *wet-my-feet*, and both sexes call each other with a note resembling the syllables *beebewe*. It is monogamous, and breeds late, the eggs being deposited late in June or early in July, in a depression in the ground scantily lined with a few grass bents or plant stems. The eggs, 8 to 14 in number, are brownish yellow, richly blotched with blackish brown, and measure about 1·18 by 0·92.

959. Subsp. Coturnix japonica.

Coturnix japonica, Temm. and Schlegel, Faun. Jap. Aves, p. 103, pl. 61 (1842); Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 239; *C. ussuriensis*, Bogd. Consp. Av. Imp. Ross. i. p. 45 (1884); Tacz. F. O. Sib. O. p. 780.

Udzura, Jap.

♂ *ad.* (Japan). Differs from *C. communis* in having the lores, sides of the head, chin, and throat uniform dull brick red, without any black mark in the middle, and the flank feathers with rufous margins, and less spotted with black. Culmen 0·5, wing 3·8, tail 1·15, tarsus 1·0 inch. The female differs from that of *C. communis* in having the chin and throat feathers elongate and lanceolate, those on the sides of the throat margined with rufous on the outer web.

Hab. Japan, Corea, China, Manchuria, Mongolia, Ordos, Kan-su, and Koko-nor, north to the Ussuri country and Dauria.

In habits it does not differ from *C. communis*, and its eggs are similar to those of that species.

TETRAOPHASIS, Elliot, 1871.

960. Moupin Pheasant.

TETRAOPHASIS OBSCURUS.

Tetraophasis obscurus (Verr.), N. Arch. Mus. Bull. v. p. 33, pl. vi. (1869); Elliot, Mon. Phas. pl. xxi.; Gould, B. of As. vii. pl. 44; Prjev. Mongol. i Strana Tangut. &c, ii. p. 429, pl. xx. fig. 2 (egg); Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 102.

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Cundeck, Tangut.

♂ *ad.* (Kan-su). Crown and sides of head dark grey, the former with dark shaft-stripes; neck and upper parts wood-brown with a few dark spots, the wing-coverts and secondaries with broad grey-white terminal margins; lower back, rump, and tail-coverts greyish brown, the last with pale tips; quills brown; middle tail-feathers greyish brown, vermiculated with dark brown, the rest blackish brown broadly tipped with white; chin and front of throat rich chestnut; breast pale slate-grey with blackish spots; rest of under parts brownish grey broadly tipped with pale isabelline; under tail-coverts warm chestnut, tipped with white; tarsi spurred. Culmen 1·45, wing 8·5, tail 6·3, tarsus 2·1 inch. Female similar but without spurs.

Hab. Eastern Tibet, Koko-nor, Kan-su, east to Szechuen.

Inhabits the central mountain ranges where these are wooded, and bush-covered rocks and ravines. Its note resembles that of *Crossoptilum auritum* but is more varied and prolonged. In the pairing season and also when surprised, it erects the tail spreading it out fan-like, and droops the wings. The pairing season commences in March, and the nest is said to be placed on the ground under thick bushes, and constructed of grass, and the eggs, which are deposited late in April, are yellowish grey or dirty grey spotted with brown, the spots being most numerous at the smaller end, and measure about 1·9 by 1·48 to 2·3 by 1·53.

961. TIBETAN PHEASANT.

TETRAOPHASIS SZECHENII.

Tetraophasis szechenyii, Madarasz, Zeitsch. Ges. Orn. ii. p. 50 pl. ii. (1885); Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 103; *T. desgodinsi*, Oustal. Le Nat. 1886, p. 276.

♂ *ad.* (Tibet). Differs from *T. obscurus* in having the chin, throat, and fore neck pale fawn instead of chestnut, the upper parts much greyer, and the middle of the breast and abdomen marked with rufous buff and chestnut like the flanks. Culmen 1·42, wing 8·7, tail 6·7, tarsus 1·9 inch.

Hab. The mountains of Central Tibet, north to the Sok Pass, south to Yer-ka-lo, Mekong River, and east to Fa-tsien-loû.

Respecting the habits and nidification of this species I find nothing on record.

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TETRAOGALLUS, Gray, 1833.

962. Caucasian Snow-Partridge.

TETRAOGALLUS CAUCASICUS.

Tetraogallus caucasicus (Pall.), Zoogr. Ross. As. ii. p. 76, and pl. (1811); Dresser, vii. p. 237, pls. 491, 492; (Radde), Orn. Caucas. p. 335, pl. xxi. figs. 1, 2 (eggs); Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 109.

Gornaya-Indeika-Chourtka, Russ.

♂ *ad.* (Caucasus). Crown, nape, and hind neck ashy grey; a broad ashy grey patch, covering a large portion of each side of the head, passes down the side of the neck; throat, and rest of the neck white; upper parts greyish black, finely vermiculated with buff, the lower neck and fore back unspotted, the rest of the upper parts with buff and fox-red spots; primaries white, broadly terminated with blackish; secondaries white at the base, then like the back; middle tail-feathers black, vermiculated with buffy white, the rest black tipped with chestnut, vermiculated at the base with buff, and at the tip with blackish; lower throat and breast-feathers buffy white margined with black; rest of under parts blackish ash-grey closely vermiculated with buffy white; flank-feathers tinged with slate, margined on each side with fox-red, and externally edged with black; under tail-coverts white; bill dull yellowish, becoming horn-brown towards the tip; legs orange-yellow; iris brown; bare skin round the eye yellow. Culmen 1·2, wing 10·5, tail 7·0, tarsus 2·25 inch. The female is duller and paler, the crown and hind neck are tinged with reddish brown, the stripe down the neck is reddish brown, and the barrings on the lower throat and breast are narrower and ill-defined.

Hab. The mountains of the Caucasus.

According to Dr. Radde this bird inhabits only the Great Caucasus, where it is found close to the snow line in rocky, almost inaccessible places, on the sides of the mountains where the sun has melted the snow, above the tree growth. In its habits it is said to be a true Partridge, and it feeds on tender buds and shoots of various Alpine plants, and lays up a store in some sheltered place for the winter. Its nest is a mere depression, or is a scanty bed of plant-stems, on the shelf of a rock in some sheltered position, and the eggs, 12 to 15 in number, are deposited late in April, and are dull light clay-buff in colour with an oil-green tinge, somewhat sparingly spotted with dull rufous, and measure about 2·65 by 1·78.

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963. Caspian Snow-Partridge.

TETRAOGALLUS CASPIUS.

Tetraogallus caspius (S. G. Gmel.), Reise Russl. iv. p. 67, pl. x. (1784); Gould, B. of As. vii. pl. 29; Radde, Orn. Cauc. p. 343, pl. xxii.; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 108; Dresser, vii. p. 241; pl. 493.

Ur-Keklik, in the Taurus; *Kabk-i-dareh*, Persian.

♂ *ad.* (Taurus). Differs from *T. caucasicus* in having the head, neck, and upper parts paler and tinged with buff, the larger wing-coverts bluer and less vermiculated on the basal portion; sides of head and neck creamy white, the space below the eye pale blue-grey with a darker blue-grey stripe down the side of the neck; feathers of lower throat and upper breast tipped with ashy buff, becoming ashy buff on the sides, and on the forepart boldly spotted with black; rest of breast ashy buff, vermiculated with blackish grey; middle of abdomen sooty slate; crissum dull buff; under tail-coverts creamy white; bill yellowish horn, paler at the base; legs rich orange-red; iris dark brown; bare space round and below the eye brilliant Indian yellow; nostrils orange-red. Culmen 1·7, wing 11·8, tail 8·0, tarsus 2·6 inch. The female is rather smaller and duller, has the crown slightly marked with light buff and dark grey, the stripes on the sides of the neck and the band on the lower throat buffer in tinge, the latter vermiculated with grey, and both mottled with black, soft parts duller than in the male, and the spur on the hind tarsus wanting.

Hab. The Taurus Mountains, west to the Gök or Geyee Mountains, east to Transcaspia, Armenia, Kurdistan, and Northern Persia, north to the Caucasus.

Like *T. caucasicus* the present species inhabits the more elevated portions of the mountains, and is extremely shy and wary. It feeds on bulbous roots, young grass blades, moss and scale-fern, and the young are probably fed on insects. The call-note is a full clear prolonged whistle ending with an abrupt jerk, and the male utters a loud cackle which is continued during flight. It breeds late in April, the nest being a deep round hollow scraped in the stony soil, slightly lined with dry grass and a few feathers, and the eggs, 6 to 9 in number, resemble those of *T. caucasicus* both in size and colour, but are, if anything, a trifle darker in ground colour.

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964. Himalayan Snow-Partridge.

TETRAOGALLUS HIMALAYENSIS.

Tetraogallus himalayensis, Gray, P.Z.S. 1842, p. 105; Gould, B. of As. vii. pl. 30; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 106; Blanf. F. Brit. Ind. Birds, iv. p. 143; *T. nigellii*, Jard. and Selby, Ill. Orn. pl. 141 (nec. pl. 76); Hume and Marsh, Game B. iii. pl. 3 (egg).

Kulla Lupu Baera, in W. Nepal; *Kabk-i-dara*, in Afghanistan.

♂ *ad.* (Himalayas). Differs from *T. caucasicus* in having the head, hind neck and fore back pale blue-grey, the sides of the neck marked with chestnut; upper parts paler and greyer, the spots redder; chin and upper throat white, below which is a narrow, indistinct chestnut band; breast white, tinged with grey, sparingly marked with dark chestnut; rest of under parts slaty blue slightly vermiculated with brown and striped with rich chestnut and black; under tail-coverts white; bill pale horn, legs yellowish red; iris dark brown; naked skin behind the eye yellow. Culmen 1·6, wing 12·0, tail 8·4, tarsus 2·5 inch. The female resembles the male, but lacks the spurs.

Hab. Himalayas, west of Kumaun at about 11,000 to 18,000 feet in summer, lower in winter, Afghanistan and the various ranges north to the Altai.

Is chiefly to be met with near the snow-line, on rocks and barren ground, usually in flocks or coveys, and feeds on grass, tender shoots, bulbs, and seeds. Its note is a soft whistle. The nest is a mere depression scratched in the ground under shelter of a rock, stone, or bush, and the eggs, 5 to 6 in number, are usually deposited late in April, and are paler or darker olive-brown spotted or blotched with brownish red, pale chestnut, or purplish brown, and measure about 2·72 by 1·85.

965. Tibetan Snow-Partridge.

TETRAOGALLUS TIBETANUS.

Tetraogallus tibetanus, Gould, P.Z.S. 1853, p. 47; id. B. of As. vii. pl. 32; David and Oust. Ois. Chine, p. 391; Prjev. Mongol. i Strana Tangut. ii. p. 127; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 104; Berezoff. and Bianchi, Ptitz. Gan-su, etc. p. 14.

Hrak-pa, Bhot.; *Hailik*, Mongol.; *Cunmo*, Tangut.

♂ *ad.* (Tibet). Differs from *T. altaicus* in being smaller, the head, neck, and upper breast darker slate-grey, gradually merging into the colour

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of the back; upper parts more marked with white, the outer webs of secondaries white; upper breast crossed by an irregular white band; under parts white with black stripes, which are bolder on the flanks; under tail-coverts black with broad terminal central white stripes; middle tail-feathers like the back, the rest brownish black tipped with rufous buff; bill orange-red; legs coral-red; iris brown. Culmen 1·52, wing 10·5, tail 6·7, tarsus 2·0 inch. Female similar but without the spur.

Hab. The mountains of Kan-su, Koko-nor, Eastern Turkestan and Northern Tibet east to the Sanju Pass at from 10,000 to 16,000 feet altitude.

In general habits it resembles *T. altaicus* and is very wary and shy. When at rest it utters a note like that of the domestic hen, occasionally interrupted by a peculiar whistle; when alighting it utters *click, click, click* several times in succession; when settling down it makes a sound like *goooo, goooo*, and when collecting its young its call-note is a whistle. Its eggs resemble those of *T. himalayensis*, and measure about 2·4 by 1·7.

966. Altai Snow-Partridge.

TETRAOGALLUS ALTAICUS.

Tetraogallus altaicus (Gebler), Bull. Sci. Acad. St. Petersb. i. p. 31 (1837); Gould, B. of As. vii. pl. 31; (Tacz.), F. O. Sib. O. p. 775; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 110.

♂ *ad.* (Altai Mountains). Differs from *T. himalayensis* in having the head, fore back, and upper breast pale blue-grey unmarked with chestnut; a patch in front of the eye, a narrow supercilium, chin, and middle of upper throat white; breast sparingly marked with white and black; a black line across the upper back; rest of upper parts as in *T. himalayensis*, but greyer and only marked with white; primaries brown, not white on basal portion; under parts white, the thigh-feathers and lower flanks dark slaty blackish; bill blackish horn; legs orange; iris brown. Culmen 1·5, wing 11·0, tail 7·0, tarsus 2·35 inch.

Hab. The Altai Mountains.

In habits and nidification this bird is said to resemble *T. himalayensis*, and its eggs, which are deposited in May, resemble those of that species but are paler. One in my collection measures 2·64 by 2·0.

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LAGOPUS, Briss., 1760.

967. Willow Grouse.

LAGOPUS ALBUS.

Lagopus albus (Gmel.), Syst. Nat. p. 750 (1788); (Naum.), vi. p. 381, Taf. 159; Dresser, vii. p. 183, pls. 483, 484 fig. 1, 485 (feet only); Elliot, Monogr. Tetr. pls. xvii. xviii.; *Tetrao. lagopus*, Linn. Syst. Nat. i. p. 274 (1766); (Ogilvie Grant), Cat. B. Br. Mus. xxii. p. 40; Ridgway, p. 199; *L. subalpina* (Nilss.), Orn. Suec. p. 307 (1817); *L. brachydactylus*, Gould, B. of E. iv. pl. 256.

Lirype Dalrype, Norweg. and Dan.; *Dalripa*, Swed.; *Rievsak*, Lapp.; *Riekko*, Finn.; *Kurupatka*, Russ.

♂ *ad. in spring* (Finland). Head, neck, breast, upper flanks, and upper parts rich dark red, the crown marked, and the neck, breast, and back more or less vermiculated with black; rump and upper tail-coverts partly white; wings, middle tail-feathers, nostrils, region round and behind the eye, a small space at the base of the lower mandible, and under parts white; rest of tail-feathers blackish partially tipped with white; comb above the eye red; bill blackish horn; iris brown. Culmen 0·88, wing 8·1, tail 5·1, tarsus 1·7 inch. Later on in the summer the white is restricted to the wings and middle of the abdomen. The female is somewhat smaller and duller in colour. In the winter both sexes have the whole plumage pure white except the tail, which is black tipped with white.

Hab. Europe from Central Scandinavia to the extreme north; not found in Britain or Iceland; Asia, north to Kamchatka, south to the Amoor; Arctic America beyond the United States; Newfoundland.

During the spring and summer it is found in pairs, usually in the tracts covered with low bushes, but in the winter large flocks are often seen. It feeds on seeds of various kinds, berries, and the tender shoots of the birch and willow. Its call-note is similar to that of the Red Grouse, and when in the spring it struts before the female the male utters a clear note, *kavao kavao*, which the female answers with a subdued mewing note, *neiau neeau*. When startled and taking wing the male utters a cackling note like that of *L. scoticus*. The Willow Grouse is monogamous, and the female deposits late in May, in a depression scratched under a bush and scantily lined with a few grass stems or twigs, her 8 to 14, sometimes even more, eggs, which closely resemble those of *L. scoticus* in size, colour, and markings. The Newfoundland bird has been subspecifically separated by Dr. Stejneger under the name *Lagopus lagopus alleni*.

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968. Red Grouse.

LAGOPUS SCOTICUS.

Lagopus scoticus (Lath.), Ind. Orn. ii. p. 641 (1790); Hewitson, i. p. 279, pl. lxx. figs. 1, 2; Gould, B. of E. iv. pl. 252; id. B. of Gt. Brit. iv. pl. 7; Elliot, Monogr. Tetr. pl. xix.; Dresser, vii. p. 165, pl. 479; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 35; Saunders, p. 495; Lilford, iv. p. 107, pl. 46.

♂ *ad.* (Scotland). General plumage blackish brown vermiculated with rusty red, the head, neck, breast, rump, and upper tail-coverts more rusty red in colour; wings and tail blackish brown, the middle tail-feathers vermiculated with reddish brown; feathers over and under the eye, and an irregular line from the base of the lower mandible, white; some of the abdominal feathers tipped with white; leg feathering greyish brown above, merging into dirty white towards the feet; beak dark horn; comb red; iris hazel. Culmen 0·85, wing 8·2, tail 4·2, tarsus 1·8 inch. The female is somewhat smaller and paler, the general colour being warm yellowish brown barred and vermiculated with black. Unlike the Willow Grouse, the Red Grouse has no special winter plumage. Specimens from England, Scotland, Wales, and Ireland vary considerably in tone of colour.

Hab. The British Islands only, except where introduced.

Inhabits the moors and open places in various parts of the United Kingdom, chiefly in the north, and is highly esteemed as a game bird. It feeds on berries, tender shoots of the heather and ling, also grain when obtainable, &c. It is strong on the wing, and when taking flight, or when danger threatens, the male utters a note of warning, *kok, kok, kok.* During the breeding season the grouse are in pairs, but in the autumn in coveys and sometimes in flocks or packs. The nest is a mere hollow scratched in the ground, scantily lined with grass, moss, or heather twigs, and in April or May, 8 to 12 eggs are deposited, which are pale olive or olive-buff, strongly spotted and blotched with dark reddish brown or blackish brown, and vary considerably. In size they measure about 1·75 by 1·33.

969. Alpine Ptarmigan.

LAGOPUS MUTUS.

Lagopus mutus (Montin.), Physiogr. Sällsk. Handl. Lund. i. p. 155 (1776–86); Hewitson, i. p. 280, pl. lxx. fig. 3; Gould, B. of E. pl. 253, 254; id. B. of Gt. Brit. iv. pls. 8, 9, 10; Dresser, vii. p. 157, pls. 478, 484, fig. 2; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 44; Saunders, p. 497; Lilford, iv. p. 112, pls. 47, 48, 49; *Tetr. lagopus*, Scop. Ann. i. p. 118 (1769 nec. Linn.); Naum. vi. p. 401, Taf. 160, 161; *T. alpinus*, Nilss. Orn. Suec. i. p. 311 (1817).

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Perdrix blanche, French; *Perdiz blanca*, Span.; *Roncaso*, Ital.; *Schneehuhn*, German; *Fjeldrype*, Dan. and Norweg.; *Fjällripa*, Swed.; *Kirun*, Lapp.; *Kiiruna*, Finn.

♂ *ad. in summer* (Norway). Head, neck, breast, upper back, and upper flanks black, on the neck slightly intermixed with white, the chin nearly pure white; lower back, inner wing-coverts, scapulars, rump, and upper tail-coverts black vermiculated with brown, here and there narrowly marked with white; tail blackish, the middle feathers narrowly tipped with white; wings, lower breast, and under parts white; bill blackish horn; iris brown. Culmen 1·05, wing 7·7, tail 4·8, tarsus 1·35 inch. The female has the head, neck, upper parts, breast, and flanks blackish, marked, barred, and vermiculated with rusty yellow, and here and there marked with white. In the autumn the male has the head, neck, upper parts, upper breast, and flanks ashy grey, narrowly vermiculated with black, the head and neck tinged with reddish brown. In the winter both sexes are pure white, the tail only black tipped with white, but the male has the lores black.

Hab. The mountains of Scandinavia, Scotland, the Ural, Pyrenees, Alps, Tyrol, Styria, and Carinthia; how far its range extends in Asia it is impossible to state with certainty.

Is essentially a mountain bird, inhabiting elevated, barren, rocky and stony localities, only descending to lower altitudes when driven by stress of weather. Its food consists of tender shoots, seeds, and berries; in its flight it resembles *L. scoticus*, but its call- or alarm-note is a harsh frog-like croak. It breeds high up in the mountains, its nest being a mere depression scratched in the ground, under a bush or stone, scantily lined with grass-bents or twigs, and the eggs, which are deposited late in May or early in June, 7 to 10 or 12, seldom more, in number, resemble those of *L. scoticus*, but the ground-colour is paler, and they are smaller, measuring about 1·67 by 1·14.

970. Rock-Ptarmigan.

LAGOPUS RUPESTRIS.

Lagopus rupestris (Gmel.), Syst. Nat. i. p. 751 (1788); Audub. B. Am. pl. 301; Dresser, vii. p. 175, pls. 480, 481; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 48; Ridgway, p. 200; Elliot, Monogr. Tetr. pl. 23; *L. islandorum*, Faber, Prodr. Isl. Orn. p. 6 (1822).

Riupa, ♂ *Kieri*, Icel.

♂ *ad.* (Iceland). Differs in summer plumage from *L. mutus* in having the head, neck, upper parts, and breast blackish brown barred and vermiculated with reddish brown; supraocular comb light vermilion; bill

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brownish horn; iris dark hazel. Culmen 1·0, wing 7·82, tail 4·95, tarsus 1·2 inch. In the autumn dress it is browner than *L. mutus*. The female is yellower and more ochreous in tone than the female of *L. mutus*. In the winter both sexes are white like *L. mutus*.

Hab. Iceland; Greenland; Northern Asia; Kamchatka; Bering Island; Aleutian Islands; Arctic North America and Newfoundland.

In habits and nidification this bird does not differ from *L. mutus*, and its eggs are undistinguishable from those of that species.

971. Subsp. Lagopus hyperboreus.

Lagopus hyperboreus, Sundevall, in Gaim. Voy. Scand. Atl. Livr. xxxviii. and pl. (1838); Elliot, Monogr. Tetr. pl. 24; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 51; *L. hemileucurus*, Gould, P.Z.S. 1858, p. 354; Dresser, vii. p. 179, pl. 482.

♂ *ad.* (Spitsbergen). Differs from *L. rupestris* in having the tail white at the base and tip, black only in the middle, the two middle feathers white with an irregular oval black mark in the middle, and the outside feathers broadly edged with white. Culmen 0·7, wing 7·6, tail 5·8, tarsus 1·1 inch.

Hab. Spitsbergen.

In habits and nidification this bird does not differ from *L. mutus* and *L. rupestris*.

TETRAO, Linn., 1766.

972. Capercailly.

TETRAO UROGALLUS.

Tetrao urogallus, Linn. Syst. Nat. i. p. 273 (1766); Naum. vi. p. 277, Taf. 154, 155; Hewitson, i. p. 277, pl. lxix. fig. 2; Gould, B. of E. iv. pl. 248; id. B. of Gt. Brit. iv. pl. 5; Dresser, vii. p. 223, pls. 489 fig. 2, 490; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 60; Saunders, p. 491; Lilford, iv. p. 101, pl. 44.

Coq de bruyère, French; *Gran Gallo de bosque*, Span.; *Gallo cedrone*, Ital.; *Auerhahn* ♂ and *-huhn* ♀, German; *Tjur*, Dan.; *Tiur* ♂, *Röj* ♀, Norweg.; *Tjäder*, Swed.; *Cukca* ♂, *Koappil* ♀, Lapp.; *Metso* ♂, *Koppelo* ♀, Finn.; *Glouhar* ♂, *Kopoluha* ♀, Russ.

♂ *ad.* (Sweden). Head and neck slate-grey narrowly barred with black; chin-feathers much elongated, black glossed with purple; back, scapulars, and wing-coverts dark reddish brown vermiculated with black; rump and upper tail-coverts black vermiculated with greyish white, the latter tipped with white; tail rounded, black, some of the feathers marbled with white, which forms an irregular band; quills brown externally

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marbled with pale sandy brown ; breast and under parts black, the former glossed with green ; abdomen blotched with white ; under tail-coverts marked and tipped with white ; tarsi feathered to the feet ; feet dull brown ; bill whitish horn ; iris brown. Culmen 2·5, wing 14·8, tail 11·0, tarsus 3·0 inch. The female is rather smaller, has the head, neck, and upper parts and tail pale rusty red barred with black, many of the feathers tipped with white ; tail tipped with white ; chin, sides of head, neck, and breast pale rufous, the lower neck spotted with black ; rest of under parts pale rufous sparingly barred with black, and broadly tipped with white ; vent and tarsi whitish ; bill dull horn, paler at the base below.

Hab. The pine forests of Scandinavia, North Russia, extinct but introduced into Scotland, the Pyrenees, Alps, and Carpathians ; North Asia, east to Lake Baikal, south to the Altai and north-eastern Turkestan.

Inhabits pine woods and feeds on tender conifer shoots, berries, &c. The pairing game, or play (*lek* in Swedish), commences early in spring, when the male, with drooping wings, expanded and erected tail, and ruffled feathers, seated either on a tree or strutting on the ground, utters his call, *pellep, pellep, pellep,—klickop—hede, hede, hede,* which is answered by a croaking note, *gock, gock, gock,* by the female, and during this season the males fight furiously for the possession of the females, who after the pairing season retire to their breeding places. The nest is a mere depression scraped in the ground under a tree or bush, and the eggs, 6 to 12 or 15 in number, are deposited early in May, and are dirty yellowish spotted and blotched with light brown and measure about 2·7 by 1·65.

Hybrids between *Tetrao tetrix* and *T. urogallus* are not uncommon, but those between *Phasianus colchicus* and *T. urogallus,* and *Lagopus albus* and *T. urogallus* are much rarer.

973. Subsp. Tetrao uralensis.

"*Tetrao uralensis,* Severtz. and Menzb." Nazaroff, Bull. Mosc. lxii. part 2, p. 365 (1886, desc. null.) ; Menzbier, Ibis, 1887, p. 303 ; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 65 ; Dresser, ix. p. 331, pl. 705.

♂ *ad.* (Ural). Differs from *T. urogallus* in being paler and greyer, the tail conspicuously marked with white, and the abdomen white, but slightly marked on the sides and upper parts with blackish. Culmen 2·4, wing 15·5, tail 12·25, tarsus 3·2 inch. The female is paler than that of *T. urogallus,* the feathers on the upper parts have broad, white margins, and the abdomen is white with but few black and pale rufous markings, the lower abdomen nearly pure white.

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Hab. The southern branches of the Ural range.

In habits it is said to resemble *Tetrao tetrix* more than *T. urogallus*, and its note is also said to differ from that of the latter species.

974. Siberian Capercailly.

TETRAO PARVIROSTRIS.

Tetrao parvirostris, Bp. Compt. Rend. xlii. p. 880 (1856); Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 66; *T. urogalloïdes*, Midd. Sib. Reis. ii. pl. 2, p. 195, Taf. xviii. figs. 1–3 (1851 nec. Nilss.); Elliot, Monogr. Tetr. pl. vi.; David and Oust. Ois. Chine, p. 390; *T. urogalloïdes* var. *sachalinensis*, Bogdanoff, Consp. Av. Ross. fasc. i. p. 122 (1884).

♂ *ad.* (Saghalien). General colour of plumage black; head and neck glossed with purplish blue, the breast with bottle-green; upper parts dull black, the scapulars, secondaries, and larger wing-coverts with terminal white spot; upper tail-coverts irregularly tipped with white; under parts brownish black slightly spotted with white, and indistinctly vermiculated on the flanks; tail uniform black, much graduated and long; bill black; iris brown; bare skin round the eye scarlet; bill much smaller than in *T. urogallus*, 0·9 from the end of feathering to tip; wing 15·3, tail 14·9, the outer feather 4·2 shorter than the middle ones, tarsus 3·0 inch. The female is distinguishable from that of *T. urogallus* not only by the white on the scapulars, secondaries, and wing-coverts, and on the upper tail-coverts, but by the long, greatly graduated tail.

Hab. The Transbaikal country to the southern portion of the sea of Ochotsk; the lower Amoor and the island of Saghalien; of rare occurrence in the mountains of the north of China.

This Capercailly is said to differ considerably from *T. urogallus* both in its play or "lek" and in its note, but it frequents the pine forests like that species. Its "lek" is, however, almost always performed, like that of *T. tetrix*, on the ground, and seldom on a tree. The nest is a mere depression scratched in the ground, and the eggs, which are deposited late in May, resemble those of *T. urogallus*, but are more oblong in shape, and measure about 2·38 by 1·60.

975. Subsp. Tetrao kamtschaticus.

Tetrao kamtschaticus, Kittlitz, Denkw. einer Reis. Russ. Am. etc. i. p. 314 (1858); Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 67; Tacz. F. O. Sib. O. p. 763.

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♂ *ad.* In general colouration intermediate between *T. urogallus* and *T. parvirostris* and approaches nearer the former in colouration, but has the head and neck but slightly vermiculated, the upper parts less rufous brown, the scapulars and tail coverts broadly marked with white, forming continuous bands; bill small as in *T. parvirostris*; bill from end of feathering to tip 0·8, wing 14·7, tail 11·0, tarsus 3·3; outer tail feathers 3·2 inch shorter than the middle ones.

Hab. The peninsula of Kamchatka.

In habits it does not differ from *T. parvirostris*, but I do not find any record of its nidification.

976. Black Grouse.

TETRAO TETRIX.

Tetrao tetrix, Linn. Syst. Nat. i. p. 274 (1766): Naum. vi. p. 324, Taf. 157; Gould, B. of E. iv. pl. 250; id. B. of Gt. Brit. iv. pl. 6; Hewitson, i. p. 278, pl. lxix. fig. 1; Dresser, vii. p. 205, pl. 487; (Elliot), Monogr. Tetr. pl. xii.; (Ogilvie Grant), Cat. B. Br. Mus. xxii. p. 53; Tacz. F. O. Sib. O. p. 766; Saunders, p. 493; Lilford, iv. p. 106, pl. 45.

Coq de bruyère, French; *Pequeño, Gallo de bosque*, Span.; *Fagiano di monte*, Ital.; *Birkhahn* ♂, *Birkhuhn* ♀, German; *Berkhoen*, Dutch; *Urfugl*, Dan.; *Aarfugl*, Norweg.; *Orre*, Swed.; *Teiri, Tetri*, Finn.; *Tetereff* ♂, *Kosach* ♀, Russ.

♂ *ad.* (Sweden). General colour black, glossed with blue on the head, neck, and upper parts; secondaries and larger wing-coverts white on the basal portion, forming a conspicuous alar patch; outer tail-feathers elongated and curved outwards; lower abdomen and thighs varied with greyish white; under wing- and tail-coverts white; over the eye a large red warty comb; bill black; feet and iris dark brown. Culmen 1·1, wing 10·4, tail in the middle 4·2, outer feathers 8·5, tarsus 1·8 inch. Female: upper parts rich rufous tinged with grey, the feathers banded or marked with black, the secondaries at the base and tip white, forming two indistinct alar bars; tail forked; breast more rufous and less marked with black than the other parts; middle of abdomen and legs greyish white, the latter indistinctly marked with dull brown; under tail- and wing-coverts white barred with brown and black.

Hab. Europe, from about lat. 67° in Scandinavia south to North Italy and Styria; west to Great Britain; Asia, east to Eastern Siberia, north to 67° N. lat. on the Yenesei, south to Turkestan, Manchuria, and, it is said, to North China.

Like the Capercailly the Black Grouse is an inhabitant of the forest and woodland, but in Scotland it is found on the moors,

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and is as a rule shy and and wary. It feeds on tender twigs, berries, seeds, &c., and is more of a ground bird than *T. urogallus*. In the spring it frequents a "lek" or drumming place, where the males fight for the possession of the females, and it is almost always held on the ground, in an open place in the forest, or a tree-surrounded morass, for this species is also polygamous. The call-note is loud and clear, and can be heard at a long distance. The "lek" lasts about 8 to 14 days, after which the females retire to their breeding places. The nest is a depression in the ground, sometimes scantily lined with grass or leaves, and the eggs, 6 to 10 or 12 in number, which are usually deposited in May, are yellowish white spotted and blotched with yellowish red and rusty red, and measure about 2·0 by 1·42.

The Black Grouse not unfrequently interbreeds with other species, and wild hybrids have been obtained between it and *Tetrao urogallus*, *Lagopus albus*, *L. scoticus*, *Tetrastes bonasia*, and *Phasianus colchicus*.

977. Georgian Black Grouse.

TETRAO MLOKOSIEWICZI.

Tetrao mlokosiewiczi, Tacz. P.Z.S. 1875, p. 266; Dresser, vii. p. 219, pl. 488; (Olgilvie Grant), Cat. B. Br. Mus. xxii. p. 58; *T. acatoptricus*, Radde, Orn. Cauc. p. 358, pl. xxiii.

Tetereff tschernysch, Russ.; *Jaban-tank*, Persian; *Paitmorek*, Armen.; *Kara-touch*, Tartar.

♂ *ad.* (Georgia). Differs from *T. tetrix* in lacking the white on the upper surface of the wing, in having the under tail-coverts black, and the tail with the tip bent downwards and slightly outwards; the glossy parts of the plumage with bottle-green reflections. Culmen 1·05, wing 7·9, tail 9·0, tarsus 2·25 inch. The female is greyish closely vermiculated with blackish brown and rusty brown, the upper parts more rufescent than the under parts; throat white; secondaries and under tail-coverts tipped with white; tail long, nearly square, blackish brown closely variegated with rufous and sandy yellow; middle of abdomen marked with black.

Hab. The whole of the Caucasus Mountains.

Is a mountain bird, inhabiting high altitudes on the borders of tree growth and the rhododendron zone at from 6,000 to 8,000 and even 11,000 feet altitude, and never descends into the valleys. In habits it resembles *T. tetrix*, and like that bird is polygamous, and in the pairing season frequents certain spots where the males "drum" and fight for the possession of the females. The nest is a hollow scratched in the soil, usually

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under shelter of a rock, and the eggs, 8 to 10 in number, are usually deposited in May or early in June, and resemble those of *T. tetrix* both in ground-colour and markings, but are considerably paler. In size they vary from 1·78 by 1·26 to 2·7 by 1·37.

978. Siberian Spruce Grouse.

TETRAO FALCIPENNIS.

Tetrao falcipennis, Hartl. J. f. O. 1855, p. 39; (Ogilvie Grant), Cat. B. Br. Mus. xxii. p. 72; (Tacz.), F. O. Sib. O. p. 770; *Tetrao canadensis* var. *franklini*, Middend. Sib. Reise, ii. part 2, p. 202, Taf. xvii. fig. 4 (1851); *Falcipennis hartlaubi*, Elliot, Monogr. Tetr. pl. xi.

Dikushka, Russ.; *Karáka*, Tungus.

♂ *ad.* (E. Siberia). Head and neck black, the feathers tipped with pale dull brown; sides of head, chin, upper throat, and lower neck almost uniform black; upper parts blackish vermiculated with brown, the scapulars and wings sparingly marked with white; lower back, rump, and upper tail-coverts with thick white stripes; tail black, the middle feathers terminally vermiculated with brownish, the rest broadly terminated with white; lower throat marked with buffy white; under parts black with a subterminal white band on the feathers; middle of abdomen black; vent nearly white; thigh and leg-feathers smoky brownish; under tail-coverts black, broadly tipped with white; feet and bill dark horn, the lower mandible paler; iris yellowish brown; outer quills tapered, narrow, and sickle-shaped. Wing 7·2, tail 4·7, tarsus 1·4 inch. The female has the head, neck, and upper parts rufous, barred and vermiculated with black, and the under parts rufous varied with black and white.

Hab. Kamchatka, North-eastern Siberia, the lower Amoor, and the island of Saghalien.

In habits it resembles *Tetrao canadensis*, to which species it is nearly allied, and like it frequents conifer woods and is extremely tame, so much so that it is often killed by the natives with a stick. I find nothing on record respecting its nidification.

TETRASTES, Keys. and Blas., 1840.

979. Hazel Hen.

TETRASTES BONASIA.

Tetrastes bonasia (Linn.), Syst. Nat. i. p. 275 (1766); (Naum.), vi. p. 358, Taf. 158; David and Oust. Ois. Chine, p. 390; (Seebohm), B. Jap. Emp. p. 373; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 90; Tacz. F. O. Sib. O. p. 772; *Bonasia europæa*, Gould, B. of E. iv. pl. 251; *B. betulina* (Scop.), Ann. i. p. 119 (1769); Dresser, vii. p. 193, pl. 486.

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Gélinotte, French; *Grebul*, *Fabot*, Span.; *Francolino di monte*, Ital.; *Haselhuhn*, German; *Hjerpe*, *Hasselhöne*, Dan.; *Jerpe*, Norweg.; *Hjerpe*, Swed.; *Bakkus*, *Puogga*, Lapp.; *Pyy*, Finn.; *Riabchik*, Russ.; *Yezo-Rai-cho*, *Yamadori*, Jap.

♂ *ad.* (Sweden). Upper parts grey, in parts tinged with rufous, barred with blackish and brown; head crested; lores, a spot under, and a line behind the eye white; cheeks and a band down the sides of the neck white, slightly marked with black; lower back, rump, and upper tail-coverts clearer grey and less marked with blackish; tail ashy grey freckled with blackish and all but the middle feathers tipped with white, and with a sub-apical black band; moustachial region and throat deep black; under parts white slightly mottled with brown, the breast tinged, and the flanks distinctly marked with rusty red; bill blackish horn; lower half of the tarsus bare, and with the feet reddish brown tinged with grey; iris nut-brown; eyelid rich red. Culmen 0·8, wing 6·3, tail 4·7, tarsus 1·25 inch. The female has the throat fulvous white sparingly marked with black, and the white band on the neck is more indistinct.

Hab. Scandinavia to about lat. 67° in Lapland, North Russia, Germany, the western Pyrenees, Jura and Alps, North Italy, the Carpathians, and Styrian Alps; Northern Asia, east to Japan, north to Kamchatka, south to the Altai range, Manchuria and North China.

Is a resident frequenting mixed conifer and deciduous woods, and especially aspen and birch groves. It feeds on buds and tender shoots, seeds, berries, and insects, and seeks its food to a large extent on the ground. When flushed it will perch, and sit motionless squatted close to the branch like its American allies. The call-note of the male is a somewhat low, prolonged whistle, and that of the female a single sustained *tih*. It is strictly monogamous, and nidification commences early in May. The nest is carefully concealed, and is a depression scratched in the ground, but scantily lined with a little grass, and the eggs, 10 to 14 in number, are rather elongate in shape, tapering somewhat towards the smaller end, pale yellowish or orange yellowish in ground-colour, sparingly spotted with rufous, and measure about 1·65 by 1·16.

Specimens from different localities vary somewhat, those from the high north being greyer, and those from Central and Southern Europe more rufous.

980. Menzbier's Hazel Grouse.

TETRASTES GRISEIVENTRIS.

Tetrastes griseiventris, Menzbier, Bull. Mosc. lv. pt. i. p. 105, pl. iv. (1880); (Dresser), ix. p. 329, pl. 704; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 93.

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♂ *ad.* (Russia). Differs from *T. bonasia* in being much darker and duskier; upper parts dark grey, the head and back barred with blackish, the former darker; rump and upper tail-coverts dark grey with indistinct darker bars; tail like that of *T. bonasia*, but the subterminal band scarcely indicated, and the white tip wanting; chin and a streak from above the eye white; throat black slightly marked with dark rufous; neck and breast grey barred with black and marked with rufous; rest of under parts grey indistinctly barred with black; flanks tinged with rufous; bill blackish horn; feet greyish brown; iris brown. Culmen 0·9, wing 6·6, tail 4·8, tarsus 1·35. The female is browner and less grey in colour, and the black feathers on the throat are broadly tipped with buff.

Hab. The Perm and Olonetz Governments west of Ural, Russia.

I do not find anything on record respecting the habits and nidification of this species, which probably do not differ from those of *T. bonasia*.

981. Mongolian Hazel Grouse.

TETRASTES SEVERTZOVI.

Tetrastes severtzovi, Prjevalsky, Mongol i Strana Tangut, &c. ii. p. 130, Taf. xviii. (1876); Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 93.

♂ *ad.* (Kan-su). Differs from *T. bonasia* in having the crown, nape, neck, and upper parts generally warm reddish brown instead of grey in ground-colour, and the whole of the lower back, rump, and upper tail-coverts clearly barred with black; under parts darker than in *T. bonasia*, being black with a bar across the middle and the tips white; breast washed with warm reddish brown. Culmen 0·7, wing 7·0, tail 5·60, tarsus 1·3 inch. The female is a trifle smaller and has the chin and throat pale yellow marked with black.

Hab. The mountains of Kan-su, Koko-nor, and the Hoang-ho river.

In general habits and note it is said to resemble *T. bonasia*. It inhabits the mountains up to about the elevation of 11,000 feet, frequents the larch and fir forests, and particularly affects small ravines through which brooks run, and which have the sides thickly covered with bushes. So far as I can ascertain, its nest and eggs are not known.

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TURNIX, Bonnat., 1790.

982. ANDALUCIAN HEMIPODE.

TURNIX SYLVATICA.

Turnix sylvatica (Desfont), Mém. de l'Acad. Roy. des Sc. Paris, 1787, p. 500, pl. xiii.; Dresser, vii. p. 249, pl. 494; Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 537; Saunders, p. 506; *T. andalusica* (Gmel.), Syst. Nat. i. p. 766 (1788); *T. africana*, Bonn. Tabl. Encycl. Méth. i. p. 6 (1790); Gould, B. of Gt. Brit. iv. pl. 16; Hewitson, Ibis, 1859, pl. ii. figs. 4, 5 (eggs); *Hemipodius tachydromus*, Temm. Pig. and Gall. iii. p. 626 (1815); Gould, B. of E. iv. p. 264.

Toirão do mato, Portug.; *Torillo*, Span.; *Quaglia tridattila*, Ital.; *Semmana*, Arab.; *Zerquil*, Moor.

♂ *ad.* (Spain). Head blackish brown marked with reddish brown, and with a central brownish buff streak; cheeks, sides of head, and upper throat buffy white, barred with black, upper parts blackish brown transversely marked with chestnut and black; wing-coverts ochreous chestnut, blotched and spotted with black, and broadly marked with buffy white; quills blackish brown externally edged with buffy white; sides of throat, neck, and flanks buffy white, each feather with a large blackish brown crescentic mark; middle of throat warm pale ferruginous, fading to buffy white towards the abdomen; under tail-coverts warm ochreous; bill dull fleshy becoming blackish at the tip; legs light brown, the hind toe wanting; iris light brown. Culmen 0·5, wing 3·3, tail 1·7, tarsus 1·0 inch. The female is larger, has the nape nearly uniform dull light red, and the under parts are richer coloured.

Hab. Portugal, Spain, has once occurred in Italy, but is fairly common in Sicily, and is said to be very rare in Southern France; North Africa. Of very doubtful occurrence in Britain.

Frequents dense bush-covered localities, where it hides and is very difficult to flush, being as a rule very shy and wary. Its ordinary note is *crroou, crroou, crroou*, but in the early morning and late in the evening both sexes utter a deep mournful note like the distant bellowing of a bull. Throughout its range it appears to be resident. It feeds on seeds of various kinds, and insects. It is monogamous, and makes its nest, which is a scantily lined depression in the ground, under shelter of a bush in some dense thicket. Its eggs, which are deposited late in June or early in July, 4 to 6 in number, are greyish or buffy white rather closely marked with pale purplish grey shell spots and dark brown or purplish brown surface blotches, and measure about 1·0 by 0·78.

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983. Burmese Hemipode.

TURNIX BLANFORDI.

Turnix blanfordi, Blyth, J. A. Soc. B. xxxii. p. 80 (1863); Ogilvie Grant, Cat. B. Br. Mus. xxii. p. 542; Blanf. F. Brit. Ind. Birds. iv. p. 155; *T. maculatus*, Vieill. Nouv. Dict. xxxv. p. 47 (1819, nec. Temm.), David and Oust. Ois. Chine, p. 398; (Tacz.), F. O. Sib. O. p. 783; *T. variabilis*, Prjev. Voy. Oussouri. Suppl. No. 139.

Ngon, Burm.

♂ *ad.* (Burma). Crown black varied with chestnut; mesial line warm buff; sides of head to above the eye pale yellowish buff, finely variegated with black; upper parts greyish varied with chestnut and buff; wing-coverts spotted with black on warm creamy buff; chin and upper throat buffy white, the lower neck pale rusty; rest of under parts whitish, becoming warm creamy buff on the flanks and under tail-coverts; sides of breast and flanks spotted with black; bill brown, the base of the lower mandible, legs, and feet yellow; iris yellowish white. Culmen 0·65, wing 3·6, tail 1·3, tarsus 0·95 inch. The female is larger, has the mesial line less distinct or absent, is altogether brighter in colour and has a broad ferruginous collar round the lower neck.

Hab. India (Assam, the Khasi Hills, Tipperah and Chittagong) Burma; China; Manchuria; South-east Mongolia, Ordos, Kan-su and Koko-nor.

Inhabits grassy localities, gardens, and in Mongolia marshy places such as are frequented by Snipe, and is a silent shy bird. Nothing appears to be known respecting its nidification.

RALLUS, Linn., 1766.

984. Water-Rail.

RALLUS AQUATICUS.

Rallus aquaticus, Linn. Syst. Nat. i. p. 262 (1766); Naum. ix. p. 472, Taf. 235; Hewitson, ii. p. 322, pl. xc. fig. 2; Gould, B. of E. iv. pl. 339; id. B. of Gt. Brit. iv. pl. lxxxvi.; Dresser, vii. p. 257, pl. 495; Sharpe, Cat. B. Br. Mus. xxiii. p. 20; Blanford, F. Brit. Ind. iv. p. 160; Saunders, p. 515; Lilford, iv. p. 139, pl. 60.

Râle d'eau, French; *Frango d'agua*, Portug.; *Rascón*, Span.; *Porciglione*, Ital.; *Wasserralle*, German; *Watterval*, Dutch; *Kéldusvin*, Icel.; *Vandrixe*, Dan. and Norweg.; *Vattenralle*, Swed.; *Rantakana*, Finn.; *Vodjanoi-Pastuschok*, Russ.

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♂ *ad.* (England). Crown, nape, and hind neck blackish, marked with fulvous brown; upper parts warm olive-brown blotched with blackish; quills olivaceous brown; tail darker, the feathers margined with olivaceous brown; lores sooty blackish; sides of head, throat, neck, breast, and upper abdomen deep slaty blue; lower abdomen and flanks black barred with white; middle of lower abdomen brownish buff; a white patch on the under tail-coverts; bill dark brown, the base of the lower edge of upper mandible red; legs fleshy brown; iris red. Culmen 1·62, wing 4·6, tail 2·12, tarsus 1·72 inch. Female similar but rather duller.

Hab. Europe generally, north to Trondhjem Fjord; Britain; resident in Iceland; North Africa in winter; Asia Minor and Asia east to Yarkand and Cabul; N.W. India in winter, but rare.

Frequents low swampy localities in or near woods, overgrown ditches, &c., and is shy and secretive in its habits. It seldom flies far when flushed, but is able to take extended flights, and swims and even dives with ease. It feeds on worms and aquatic insects, rarely on vegetable substances. Its call-note is a clear *creek*, usually uttered when on the wing, and its cry is loud and peculiar. It breeds in damp, swampy localities, and conceals its nest with care; this is a rather large, loose structure of dry leaves of aquatic plants, and is placed on the ground. The eggs, 8 to 10 in number, are usually deposited in April, and are pale whitish stone-buff, marked with pale purplish shell-spots and dark red surface-blotches and spots, and measure about 1·39 by 1·4.

985. Subsp. Rallus indicus.

Rallus indicus, Blyth, J. A. S. Beng. xviii. p. 820 (1849); David and Oust. Ois. Chine, p. 489; Seebohm, B. Jap. Emp. p. 359; Sharpe, Cat. B. Br. Mus. xxiii. p. 24; Blanf. F. Brit. Ind. Birds, iv. p. 158; Tacz. F. O. Sib. O. p. 993; *R. japonicus*, Jerd. B. of Ind. ii. p. 727, note (1863); Dresser, vii. p. 261.

Kana-koli, Tam.; *Yay-gyet*, Burm.; *Kuina*, Jap.

ad. (Japan). Differs from *R. aquaticus* in being rather darker, the lores and a broad streak continued behind the eye blackish, and the barring on the under parts extends to the end of the tail-coverts.

Hab. Dauria, Mongolia, Japan, North China; wintering in South China, Burma, India, and Ceylon.

In habits it does not differ from *R. aquaticus*. It breeds in south-eastern Siberia and Japan, its nest and eggs being also similar to those of *R. aquaticus*.

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PORZANA, Vieill., 1816.

986. Spotted Crake.

PORZANA MARUETTA.

Porzana maruetta (Leach), Syst. Cat. etc. p. 34 (1816); Gould, B. of Gt. Brit. iv. pl. 88; Dresser, vii. p. 267, pl. 496; Saunders, p. 509; Lilford, iv. p. 130, pl. 56; Blanf. F. Brit. Ind. Birds, iv. p. 166; *Rallus porzana*, Linn. Syst. Nat. i. p. 262 (1766); (Naum.), ix. p. 523, Taf. 237; (Hewitson), ii. p. 318, pl. lxxxix. figs. 2, 3; Gould, B. of E. iv. pl. 343; (Sharpe), Cat. B. Br. Mus. xxiii. p. 93.

Poule d'eau marouette, French; *Frango d'agua*, Portug.; *Polluella*, Span.; *Voltolino*, Ital.; *Punktirtes Rohrhuhn*, German; *Porcelein hoentje*, Dutch; *Plettet Sumphöne Rörvagtel*, Dan.; *Smaaplettet Sumphöne*, Norweg.; *Småfläckig Sumphöna*, Swed.; *Kaisla-rääkkä*, Finn.; *Kamyschnik*, Russ.; *Gurguri-khairi*, Bengal.

♂ *ad.* (Holland). Entire head and upper throat blackish slate-grey, the throat and head in front of the eye unspotted, the crown closely marked with black and dark reddish brown; lores blackish; hind neck and upper parts warm olivaceous brown, the neck closely spotted with white, the rest of upper parts striped and spotted with white and blotched with black; quills and tail olive-brown, the first quill externally margined with white; under parts deep slate-grey, the breast and flanks spotted, and the latter barred with white; middle of abdomen nearly white; under tail-coverts ochreous buff; bill orange-yellow, red at the base; legs yellowish green; iris reddish brown. Culmen 0·85, wing 4·8, tail 2·2, tarsus 1·45, middle toe with claw 1·7 inch. Female similar but smaller and duller, the head, neck, and flanks tinged with brown, and more white on the abdomen.

Hab. Europe generally, north to Trondhjem Fjord in Norway, to Hudiksvall in Sweden, and Archangel in Russia, south to the Mediterranean in winter; Britain; Canaries, rare; North Africa, south to Abyssinia; Asia Minor and Asia, east to Central Asia, and Northern India in winter.

Frequents swampy places where the herbage is thick, and is very secretive and shy. Its call-note is a clear *kweet*, usually heard in the evening or at night, and its food consists of aquatic insects, larvæ, small worms, snails, tender shoots and seeds. Its nest, which is usually well concealed, is a loose structure of flags, reeds, and leaves of aquatic plants, lined with finer materials, and the eggs, 8 to 14 in number, are deposited late in May or early in June, and are rather glossy, ochreous in

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ground-colour, with violet-grey shell-markings and reddish brown surface spots and blotches, and measure about 1·34 by 0·97.

987. Baillon's Crake.

PORZANA BAILLONI.

Porzana bailloni (Vieill.), Nouv. Dict. xxviii. p. 548 (1819); (Hewitson), ii. p. 377, pl. cvi. fig. 1; (Gould), B. of E. iv. pl. 344; Dresser, vii. p. 275, pl. 497; Saunders, p. 513; Lilford, iv. p. 135, pl. 59; *P. pygmæa* (Brehm), Lehrb. ii. p. 641 (1824); (Naum.), ix. p. 567, Taf. 239; (Gould), B. of Gt. Brit. iv. pl. 89; ? *Rallus intermedius*, Hermann, Obs. Zool. i. p. 198 (1804); (Sharpe), Cat. B. Br. Mus. xxiii. p. 103.

Poule d'eau Baillon, French; *Polluela chica, Picardó*, Span.; *Schiribilla-grigiata*, Ital.; *Zwerg Sumpfhuhn*, German; *Kleinste Waterhoen*, Dutch.

♂ *ad.* (S. Spain). Crown, nape, and upper parts reddish brown tinged with olivaceous and marked with black; the mantle and rump clearly spotted with white; wings and tail dark brown, the outer web of the first quill white; sides of head, neck, and under parts deep slate-blue; the lower abdomen and flanks, under wing- and tail-coverts black, barred with white; bill sea-green at the base, becoming blackish green towards the tip; legs dull greyish flesh; iris carmine-red. Culmen 0·75, wing 3·5, tail 2·05, tarsus 1·1 inch. Female similar but duller in colour. The young bird lacks the blue colour, having the sides of the head warm ochreous brown, the chin and upper throat white, the lower throat and breast dull brownish ochreous, the middle of the abdomen white.

Hab. Central and Southern Europe up to about 54° N.; an irregular visitor to Britain; the whole of Africa and Madagascar; Asia Minor and Asia east to Persia.

Inhabits marshy and damp localities where the herbage is dense, as, like its allies, it is extremely secretive in its habits. It swims with ease and grace, and is well able to dive. It walks also with readiness and celerity on the floating herbage, but when flushed its flight is short. Its note is a low piping cry, resembling that of the Little Crake, and its food consists of insects, larvæ, and small molluscs. It breeds in May, its nest being carefully hidden in the herbage in some swampy locality, and is cup-shaped, well lined with dry grass and the leaves of aquatic plants. The eggs, usually 7 to 8 in number, are olivaceous ochreous very closely dotted and marbled with olivaceous brown, and measure about 1·7 by 0·81.

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988. Subsp. Porzana pusilla.

Porzana pusilla (Pall.), Reis. Ross. Reichs. iii. Anh. p. 700 (1776); (Seebohm), B. Jap. Emp. p. 356; Sharpe, Cat. B. Br. Mus. xxiii. p. 106; Blanf. F. Brit. Ind. Birds, iv. p. 165; Tacz. F. O. Sib. O. p. 997; *P. pygmæa*, David and Oust. Ois. Chine, p. 487 (nec. Brehm).

Hailli, Nepal.; *Hime-kuina*, Jap.

Ad. (India). Differs from *P. bailloni* in being somewhat paler grey, and in having an ochreous brown streak from the lores through the eye and ear-coverts to the side of the neck, whereas in the European bird the sides of the head are grey without any such stripe. Gape 0·7, wing 3·5, tail 1·75, tarsus 1·1 inch.

Hab. South-east Siberia, Mongolia, Manchuria, Corea, Japan, China, Burma, India, and Ceylon; west to Afghanistan and Baluchistan, south to the Philippines in winter.

In habits and nidification it does not differ from the European bird. It breeds in South-east Siberia, Japan, and the Lower Himalaya—in the last locality in June and July, and in Japan and South-east Siberia in June.

989. Little Crake.

PORZANA PARVA.

Porzana parva (Scop.), Ann. i. Hist. Nat. p. 108 (1769); Dresser, vii. p. 283, pl. 498; (Sharpe), Cat. B. Br. Mus. xxiii. p. 89; Blanf. F. Brit. Ind. Birds, iv. p. 164; Saunders, p. 511; *P. minuta* (Mont.), Orn. Dict. Suppl. fol. 9 (1813 nec. Pall.); Gould, B. of Gt. Brit. iv. pl. 90; *P. pusilla* (Bechst.), Orn. Taschenb. ii. p. 340 (1803 nec. Pall.); (Naum.), ix. p. 547, Taf. 238; (Gould), B. of. E. iv. pl. 345; (Lilford), iv. p. 134, pls. 57, 58.

Poule d'eau poussin, French; *Schiribilla*, Ital.; *Kleine Sumpfhuhn*, German; *Dverg Sumphöne*, Dan.; *Lilla Sumphöna*, Swed.

♂ *ad.* (Hungary). Differs from *P. bailloni* in being larger, the upper parts more olivaceous and less spotted, the wing-coverts unspotted, the black markings more blurred; first primary dark brown on both webs; under parts deep slate-blue, but the lower abdomen and under tail-coverts less distinctly barred; bill bright red at base, otherwise yellowish green; iris blood-red; legs green. Culmen 0·75, wing 4·15, tail 2·3, tarsus 1·3, middle toe with claw 1·75 inch. The female differs from the male in

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having the chin, lower cheeks, and throat white, the sides of the head only greyish slate-blue; lower throat, breast, and abdomen pinkish buff, the lower abdomen and under tail-coverts as in the male but paler.

Hab. Central and Southern Europe, but of irregular occurrence as far north as Great Britain and Southern Scandinavia; winters in North Africa; South-west and Central Asia east to North-west India.

In its habits it is shy and secretive like its ally Baillon's Crake, frequenting similar localities. Its call-note is a tolerably loud *kik, kik, kik.* Its nesting habits are similar to those of Baillon's Crake, but the nest is larger and of coarser materials; the eggs, which are deposited late in May or in June, are rather larger and paler, the ground-colour more ochreous and the surface spots more scattered. In size they measure about 1·18 by 0·87.

990. Button Crake.

PORZANA EXQUISITA.

Porzana exquisita, Swinhoe, Ann. and Mag. Nat. Hist. (4) xii. p. 376 (1873); id. Ibis, 1875, p. 135, pl. iii.; Sharpe, Cat. B. Br. Mus. xxiii. p. 128; *P. undulata*, Tacz. J. f. O. 1874, p. 333; id. F. O. Sib. O. p. 999; Seebohm, B. Jap. Emp. p. 358.

Shima-kuina, Jap.

♂ *ad.* (Japan). Upper parts, wings, and tail rufescent olivaceous, blotched with black and marked with white, the first quill white on the outer web, the secondaries white on the apical two-thirds; throat, breast, and abdomen white, the lower neck, fore throat, sides of neck and flanks reddish brown with an olivaceous tinge, barred with blackish and margined with white; bill deep brown, but greenish yellow at base of lower mandible and on rectus; legs and feet light flesh-brown, dark on joints and claws; iris brown. Culmen 0·55, wing 3·0, tail 1·05, tarsus 0·8, middle toe and claw 0·95. The male is smaller, has less white on the wings, and the under parts are less mottled.

Hab. Darasun in Dauria, the Ussuri country, Japan, and North-eastern China.

Is most nearly allied to *P. noveboracensis* (Gm.) of North America, but is smaller and darker. Like its allies it is shy and secretive, hard to flush, and flies awkwardly. It frequents damp, swampy localities, and nests on the ground, making a nest of leaves of aquatic plants. The eggs are yellowish

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white, marked with a few greyish shell-spots, and with reddish brown surface-markings, which are more numerous on the basal portion; in size they measure about 1·04 by 0·79.

991. Ruddy Crake.

PORZANA FUSCA.

Porzana fusca (Linn.), Syst. Nat. i. p. 262 (1766); (Sharpe), Cat. B. Br. Mus. xxiii. p. 146; (Blanf.), F. Brit. Ind. Birds, iv. p. 170; (Seebohm), B. Jap. Emp. p. 357; *P. erythrothorax* (Temm. and Schleg.), Faun. Jap. Aves, p. 121, pl. 78 (1850); David and Oust. Ois. Chine, p. 486.

Hi-kuina, Jap.

♂ *ad.* (Japan). Upper parts dark brownish olive, browner on the rump, upper tail-coverts, and inner secondaries; quills and tail dark brown; forehead, sides of head, neck, and under parts vinous chestnut; flanks and abdomen olivaceous brown, the abdomen and lower flanks streaked with white; under tail-coverts blackish margined with white; bill greenish brown; legs red; iris crimson; eyelids plumbeous, the edges red. Culmen 0·9, wing 4·0, tail 2·0, tarsus 1·3 inch. Sexes alike, but the young bird is dusky olivaceous, the chin, throat, and middle of abdomen whitish.

Hab. India, Ceylon, Burma, China, and Japan, south in winter to the Malay Peninsula, Java, and the Philippines.

Frequents damp, rush-covered places and ponds, and feeds on insects and seeds. It swims like a Moorhen and has a soft call. It breeds in India from July to September, and in Japan from early in June to the middle of August, and places its nest, which is constructed of rushes and weeds, amongst the rushes, grass, or wild rice, very little above the surface of the water. The eggs, from 4 to 6 in number, are pinky or creamy white, streaked, spotted, and blotched with reddish brown surface markings and inky purple shell blotches which are more dense at the larger end. In size they measure about 1·2 by 0·84.

992. Siberian Ruddy Crake.

PORZANA PAYKULLI.

Porzana paykulli (Ljungh), Kungl. Vet. Akad. Handl. 1813, p. 259, tab. v.; (Sharpe), Cat. B. Br. Mus. xxiii. p. 149; *P. mandarina*, Swinhoe, Ann. and Mag. Nat. Hist. 4th Series, v. p. 173 (1870); (David and Oust.), Ois. Chine, p. 488, pl. 123; (Tacz.), F. O. Sib. O. p. 995; *P. erythrothorax* (nec. T. and S.); (Radde), Sib. Reise, ii. p. 309 (1863).

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♂ *ad.* (China). Differs from *P. fusca* in having the flanks and thighs white barred with dusky blackish, the under tail-coverts black barred and tipped with white, and the axillaries and under wing-coverts white barred with blackish; bill bluish grey, blackish on the culmen and about the tip, pea-green about the base; inside of mouth flesh-colour; iris crimson; eyelid red; legs and toes salmon-colour, brownish on the under surface of the tarsi, on the toes, and on the soles. Culmen 1·1, wing 4·7, tail 2·15, tarsus 1·5 inch.

Hab. Eastern Siberia, the Amoor, the Bay of Abrek on the coast of the Sea of Japan, and Sidemi; Corea, China, the Malay Peninsula, Java, and Borneo.

I find but little on record respecting the habits of this species, which do not appear to differ from those of its congeners. M. Kalinosowski found it breeding at Sidemi on a damp plain, and describes its eggs as closely resembling those of *Crex pratensis* in colour and markings, and in size measuring about 35·3 by 26·2 mm. (1·39 by 1·02 inch).

CREX, Bechstein, 1803.

993. Corn-Crake or Land-Rail.

CREX PRATENSIS.

Crex pratensis, Bechst. Orn. Taschenb. part 2, p. 337 (1803); Naum. ix. p. 496, Taf. 236; Hewitson, ii. p. 372, pl. cv. fig. 2; Gould, B. of Gt. Brit. iv. pl. 87; Dresser, vii. p. 291, pl. 499; Saunders, p. 507; Lilford, iv. p. 126, pl. 55; *Rallus crex*, Linn. Syst. Nat. i. p. 261 (1766); (Gould), B. of E. iv. pl. 341; (Ridgway), p. 140; (Sharpe), Cat. B. Br. Mus. xxiii. p. 82; Blanf. F. Brit. Ind. Birds, iv. p. 163.

Râle des prés, French; *Codornizão*, Portug.; *Polla de agua, Rey de las codornices*, Span.; *Re di quaglie*, Ital.; *Wiesenralle*, German; *Kvartelkoning*, Dutch; *Vagtelkonge*, Dan.; *Agerrixe*, Norweg.; *Ängsknarr*, Swed.; *Ruisrääkkä*, Finn.; *Korostell*, Russ.

♂ *ad.* (England). Crown, hind neck, and upper parts blackish brown marked with greyish and reddish ochreous; quills rufous brown; wing-coverts rusty red; chin white; sides of head blue-grey with a pale brown band passing through the eye to the neck; sides of neck greyish ochreous marked with reddish brown; abdomen and under tail-coverts white, the latter marked with reddish brown; flanks rufous barred with white; bill dark brown; legs greyish flesh; iris clear brown. Culmen 0·8, wing 5·5, tail 2·15, tarsus 1·5 inch. Female similar but duller. In the autumn the spots on the upper parts are smaller, the under parts paler, and the flanks less rufous.

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Hab. Europe generally, including even the outlying Hebrides, nearly up to the Arctic Circle; Africa, south to the Cape Colony in winter; Asia, east to the Yenesei and possibly to the Lena, south through Persia to Muscat; of doubtful occurrence in Northern India; has strayed to Greenland, Bermuda, and the east coast of North America.

Frequents fields, meadows, and lowlands, and though seldom seen, its harsh grating note is often heard. It runs with ease and celerity, but is averse to take wing. It feeds chiefly on insects of various kinds. Its nest is a mere depression in the soil, usually in a cornfield or meadow, and is very scantily lined with grass-bents, and its eggs, 8 to 12 in number, are usually deposited in June, and are like those of *R. aquaticus*, but paler in ground-colour and more profusely marked, and measure about 1·48 by 1·04.

PORPHYRIO, Briss., 1760.

994. Purple Gallinule.

PORPHYRIO CÆRULEUS.

Porphyrio cæruleus (Vandelli), Flor. and Faun. Lusit. etc. i. p. 37 (1797); Sharpe, Cat. B. Br. Mus. xxiii. p. 194; *P. hyacinthinus*, Temm. Man. d'Orn. ii. p. 698 (1820); Gould, B. of E. iv. pl. 340; *P. veterum*, Dresser, vii. p. 299, pl. 500 (nec. Gmel.); Lilford, iv. p. 146, pl. 62.

Camão, Portug.; *Gallo azul*, *Calamon*, Span.; *Pollo sultano*, Ital.; *Kazir*, Moor.

♂ *ad.* (Spain). Upper parts rich deep blue; quills on the inner webs and tail-feathers bluish black; sides of head, chin, throat, and upper breast rich turquoise-blue; rest of under parts blackish blue, except the under tail-coverts, which are white; frontal plate and bill bright sealing-wax red; legs flesh-red; iris lake-red. Gape 1·7, wing 9·5, tail 4·1, tarsus 3·5, middle toe with claw 4·8 inch. Sexes alike. The young bird has the upper parts bluish slate-grey, the rump slaty blackish, the sides of head dull ashy grey with a bluish tinge; chin and upper throat ashy white; rest of under parts dull bluish slate tipped with ashy grey, the middle of abdomen whiter, the under tail-coverts white.

Hab. South Portugal and Spain, rare in Southern France and Italy; Sardinia and Sicily; rarer further east, though found as far as Mesopotamia; North-west Africa.

In habits it somewhat resembles the Coot, and frequents similar localities, marshy places and the shores of lakes where

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the vegetation is dense, and is shy and secretive. It breeds late in March or in April, placing its nest, which resembles that of the Coot, amongst dense aquatic vegetation, and deposits 3 to 5 eggs, which are warm stone-ochreous in ground-colour, marked with violet-grey shell blotches, and deep brownish red surface spots, and measure about 2·8 by 1·43.

995. Green-backed Gallinule.

PORPHYRIO MADAGASCARIENSIS.

Porphyrio madagascariensis (Lath.), Ind. Orn. Suppl. p. lxviii. (1801); *P. chloronotus*, Vieill. Nouv. Dict. xxviii. p. 24 (1819); Brehm. J. f. O. 1853, Extra-heft, p. 103; *Fulica porphyrio*, Linn. Syst. Nat. i. p. 258 (1766); (Sharpe), Cat. B. Br. Mus. xxiii. p. 195; *P. smaragnotus*, Temm. Man. d'Orn. ii. p. 700 (1820); Dresser, vii. p. 303, pl. 501.

Dikm, Digmeh, Arabic.

♂ *ad.* (Egypt). Differs from *P. cæruleus* in having the back rich dark bluish green instead of dark blue. Gape 1·7, wing 10·4, tail 4·35, tarsus 3·85, middle toe with claw 4·9 inch.

Hab. Egypt, and Africa south to the Cape, Madagascar; a very rare straggler to Southern France and Italy.

In habits it does not differ from *P. cæruleus*. It breeds in Africa, and is said to deposit 6 to 10 eggs, which are ruddy brown spotted with dark purple brown, and measure 2·2 by 1·6.

996. Indian Gallinule.

PORPHYRIO POLIOCEPHALUS.

Porphyrio poliocephalus (Lath.), Ind. Orn. Suppl. p. lxviii. (1801); Dresser, ix. p. 333, pl. 706; Sharpe, Cat. B. Br. Mus. xxiii. p. 197; Blanf. F. Brit. Ind. Birds, iv. p. 178; *P. veterum*, S. G. Gmel. Reise Russ. iii. pl. xxi. p. 79, footnote, pl. 12 (1774); Radde, Orn. Cauc. p. 380, pl. xxiv. xxi. figs. 3, 4 (eggs).

Sultanka, Russ.; *Bojachana*, Tartar; *Keim, Kaima*, Hindu.

♂ *ad.* (India). Upper parts deep blue, the wings slightly washed with greenish; tail black, externally washed with blue; crown ashy blue; sides of head ashy; neck tinged with ashy grey; under parts deep blue, the breast tinged with greenish; flanks bright blue; under tail-coverts white; bill and frontal shield dark red; legs and feet red, the joints of the knees and toes blackish brown; iris red. Culmen with frontal shield 2·85, wing 11·0, tail 4·25, tarsus 4·05 inch.

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Hab. The shores of the Caspian, east to India, Ceylon, Burma, and Tenasserim.

In habits it does not differ from *P. cæruleus*, and its nest is also similar. In India it breeds from July to September, depositing 6 to 8, and sometimes as many as 10 eggs, which resemble those of *P. cæruleus*, but are rather smaller, paler, have fewer and smaller markings, and average 1·93 by 1·39.

997. Allen's Gallinule.

PORPHYRIO ALLENI.

Porphyrio alleni, T. R. H. Thompson, Ann. and Mag. Nat. Hist. x. p. 204 (1842); Dresser, vii. p. 307, pl. 502; Sharpe, Cat. B. Br. Mus. xxiii. p. 187.

Canbonja-anganga, in West Africa.

♂ *ad.* (Africa). Crown, nape, and sides of head black tinged with indigo-blue; hind neck and upper parts deep olivaceous glossed with parrot-green; quills and tail bluish black; wing-coverts cobalt-blue tinged with green; under parts deep blue, becoming blackish on the lower abdomen and thighs; under tail-coverts, except the lowest layer, white; bill dark red; frontal shield dusky; tarsi and feet crimson; iris reddish brown. Culmen, with frontal shield, 1·85, wing 6·1, tail 2·6, tarsus 2·1 inch.

Female similar. The young bird has the head and hind neck rufescent sandy brown, the sides of the head paler; upper parts umber-brown margined with clay-ochreous, the rump tinged with greenish blue; chin, upper throat, and middle of breast and abdomen white; lower throat, sides of neck, breast, and flanks warm ochreous clay, the under tail-coverts more rufous; thighs chiefly bluish black; bill and frontal plate reddish horn; legs pale reddish brown; iris light brown.

Hab. Africa generally; Madagascar, and a straggler to the island of Rodriguez; of rare and accidental occurrence in Italy and Spain; and also, it is said, in Madeira and the Canaries.

In habits it is said to resemble *Gallinula chloropus*. It inhabits dense reed and papyrus thickets, and is shy and secretive. Its call-note is described as harsh, and is generally heard in the morning and evening. It feeds on aquatic plants, seeds, worms, and insects. So far as I can ascertain, nothing is on record as to its nidification, but an egg in the British Museum, extracted from the body of a bird shot on the Ruo river, British Central Africa, is pinkish cream-colour, marked,

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more thickly at the larger end, with underlying pale purple and reddish brown overlying surface specks, spots, and small blotches, and measures 1·4 by 1·05.

GALLINULA, Briss., 1766.

998. Moorhen.

GALLINULA CHLOROPUS.

Gallinula chloropus (Linn.), Syst. Nat. i. p. 258 (1766); Naum. ix. p. 587, Taf. 240; Gould, B. of E. iv. pl. 342; id. B. of Gt. Brit. iv. pl. 85; Dresser, vii. p. 313, pl. 503; Hewitson, ii. p. 378, pl. cvii. fig. 1; Sharpe, Cat. B. Br. Mus. xxiii. p. 169; Tacz. F. O. Sib. O. p. 1000; Blanf. F. Brit. Ind. Birds, iv. p. 175; Saunders, p. 517; Lilford, iv. p. 141, pl. 61.

Poule d'eau, French; *Gallinha de agua*, Portug.; *Polla de agua*, Span.; *Gallinella d'acqua*, Ital.; *Wasserhuhn*, German; *Waterhoentje*, Dutch; *Grönbenet-Rörhöna*, Dan.; *Grönbenet-Vandhöne*, Norweg.; *Rörhöna*, Swed.; *Liejukana*, Finn.; *Balotnaja-Kuritza*, Russ.; *Jal-Murghi*, Hindu.; *Ban*, Jap.

♂ *ad.* (England). Head, neck, and fore back deep greyish slate-blue; under parts paler and greyer; upper parts deep olivaceous brown; quills and tail dark brown; edge of wing and margin of first quill white; flanks marked with long white stripes; lower abdomen greyish white; under tail-coverts white with a median black tuft; base of bill and frontal plate bright red, the front of bill yellow; legs dull green with a red garter; iris red. Culmen 1·34, wing 6·5, tail 2·85, tarsus 1·85 inch. Sexes alike.

Hab. Europe generally, north to Central Scandinavia, and has been obtained as far north as the North Cape; the whole of Africa; Asia, east to Japan, south throughout India and Ceylon, north to Lake Baikal.

Frequents ponds, river-banks, and marshes where the aquatic vegetation is dense, and where it can find good shelter. It swims and dives with ease, and on land runs swiftly. Its call note is a loud *kirrik crek rek rek*, most often to be heard in the evening. Its food consists of aquatic insects, worms, tender shoots, and seeds of aquatic plants, &c. The nest is placed amongst aquatic herbage, sometimes, though rarely, on a tree, and is a bulky structure of dried weeds and aquatic plants, lined with finer materials. The eggs, 6 to 9 or 10 in number, are rusty clay-yellow with violet-grey shell-markings and reddish brown surface spots and blotches, and measure about 1·63 by

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1·21. Two or sometimes three broods are reared in the same season. In America our Moorhen is replaced by a closely allied form, *G. galeata* (Licht.).

FULICA, Linn., 1766.

999. The Coot.

FULICA ATRA.

Fulica atra, Linn. Syst. Nat. i. p. 257 (1766); Naum. ix. p. 635, Taf. 241; Hewitson, ii. p. 380, pl. cvii. fig. 2; Gould, B. of E. iv. pl. 338; id. B. of Gt. Brit. iv. pl. 84; Dresser, vii. p. 327, pl. 504, fig. 2; David and Oust. Ois. Chine, p. 489; Sharpe, Cat. B. Br. Mus. xxiii. p. 210; Tacz. F. O. Sib. O. p. 1001; Blanf. F. Brit. Ind. Birds, iv. p. 180; Seebohm, B. Jap. Emp. p. 360; Saunders, p. 519; Lilford, iv. p. 147, pl. 63.

Foulque noire, French; *Galeirão*, Portug.; *Mancon*, *Focha*, Span.; *Folaga*, Ital.; *Blässhuhn*, German; *Meerkoet*, Dutch; *Blishöne*, Norweg. and Dan.; *Sothöna*, Swed.; *Nokikana*, Finn.; *Lisa*, *Lisucha*, Russ.; *Kaschkalda*, Tartar; *Ghorra*, Arab.; *El Ghor*, Moor.; *Dasari*, Hindu.; *Ō-ban*, Jap.

♂ *ad.* (England). Head, neck, crissum, and under tail-coverts black, the two first slightly washed with slate; upper parts dark slaty blackish, the edge of the wing and tips of short secondaries white; under parts slaty blue-grey; bill and frontal plate bluish white; legs bluish grey, the bare part of the tibia orange; iris deep red. Culmen, with frontal plate, 2·05, gape 1·45, wing 8·2, tail 2·2, tarsus 2·25, middle toe with claw, 3·55 inch. Sexes similar.

Hab. Europe generally, becoming rarer in Northern Scandinavia; Azores, Madeira, Canaries; Egypt and North Africa; Asia Minor, and Asia east to Japan; north to Tarei-nor in Siberia; N.E. Kan-su, Mongolia, Manchuria; in winter south to the Philippines.

In the extreme northern portion of its range it is migratory, but chiefly resident in Britain and the south. It frequents marshes, ponds, and lakes where the aquatic herbage is dense and affords ample shelter. On land it runs with ease, on the water swims excellently, and dives well. It is very gregarious, but shy and wary. It takes wing heavily, but flies well when once aloft. Its food consists of seeds, buds, and tender shoots of aquatic plants, insects, small shell-fish, &c., and it feeds both in the day and at night. Its call-note is a clear, loud, almost trumpet-like cry uttered abruptly. Its nest is a large, close

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structure of reeds, flags, &c., lined with finer materials, and is generally placed amongst reeds or willows, and often in shallow water. The eggs, 7 to 8, sometimes as many as 12, in number, are usually deposited in May, and are yellowish grey or stone-ochreous, dotted and marked with brownish black, and measure about 2·08 by 1·48.

In America our Coot is replaced by *F. americana*, which has the lateral under tail-coverts white.

1000. Crested Coot.

FULICA CRISTATA.

Fulica cristata, Gmel. Syst. Nat. i. p. 704 (1788); Layard, B. of S. Afr. p. 343; Dresser, vii. p. 323, pl. 504, fig. 1; Sharpe, Cat. B. Br. Mus. xxiii. p. 215; *F. mitrata*, Licht. Verz. Vög. Kaffernland, p. 19 (1842).

Galeirão, Portug.; *Mancon, Focha de cuernets*, Span.; *Folaga africana*, Ital.

♂ *ad.* (Spain). Differs from *F. atra* in lacking all white on the secondaries, and in having two conspicuous red knobs at the base of the frontal shield; bill and frontal shield bluish white; legs and feet greenish brown; iris blackish. Gape 1·4, wing 8·4, tail 2·5, tarsus 2·65 inch. Female similar but somewhat smaller, with the frontal knobs less developed.

Hab. The whole of Africa to Cape Colony; Southern Portugal and Spain, and the Balearic Isles, where it breeds; of rare occurrence in the south of France and Italy, but tolerably common in Sardinia.

Is said to resemble *G. chloropus* more than *F. atra*, both in its general habits and choice of locality. It is shy and wary, and trusts more to hiding and diving than to its wings for safety. Its nest and eggs resemble those of *F. atra*, but the latter are often darker than those of that species. In Southern Europe it breeds in May, but in South Africa in December.

GRUS, Pall., 1767.

1001. Common Crane.

GRUS COMMUNIS.

Grus communis, Bechst. Naturg. Deutschl. iii. p. 60 (1793); Dresser, vii. p. 337, pl. 505; Tegetmeier and Blyth, Nat. Hist. Cranes, p. 59; Blanf. F. Brit. Ind. Birds, iv. p. 186; Blaauw, Monogr. Cranes, p. 1, part i. and xvii. fig. 1 (egg); Saunders, p. 521; Lilford, iv. p. 151, pl. 64; *G. cinerea*, Bechst. Naturg. Deutschl. iv. p. 103, tab. xix.

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(1809); Naum. ix. p. 345, Taf. 231; Gould, B. of E. iv. pl. 270; id. B. of Gt. Brit. iv. pl. 19; Hewitson, ii. p. 308, pl. lxxxi.; Tacz. F. O. Sib. O. p. 796; *Ardea grus*, Linn. Syst. Nat. i. p. 234 (1766); (Sharpe), Cat. B. Br. Mus. xxiii. p. 250; *G. lilfordi*, Sharpe, tom. cit. p. 252.

La Grue, French; *Grou*, Portug.; *Grulla*, Span.; *Kranich*, German; *Kraan*, Dutch; *Trane*, Dan. and Norweg.; *Trana*, Swed.; *Kuorga*, Lapp.; *Kurki*, Finn.; *Jouravl-sieryi*, Russ.; *Rhernong*, Arab.; *Kúrúnch*, Hindu.

♂ *ad.* (N. Russia). Crown and lores nearly naked, the skin blackish with a broad band of red across the occiput and more or less covered with black hair; upper nape greyish black, below which the hind neck is white extending up to the eye, and a narrow white streak from the base of each mandible; throat and upper neck slaty blackish; lower neck, upper and under parts ashy grey; primaries black; secondaries elongated, lax, conspicuously tipped or with the outer web black; tail grey with the terminal portion blackish; bill greenish brown, paler at the base, dull flesh-coloured at the base below; legs blackish grey; iris reddish. Culmen 4·7, wing 24·0, tail 8·1, tarsus 9·6 inch. Sexes alike.

Hab. Europe, breeding as far north as Lapland and as far south as Spain; formerly an inhabitant of England, but now of rare and accidental occurrence; Asia, east to Japan, north to Northern Siberia, and south in winter to India and China.

Frequents marshes and bogs covered here and there with bushes, and is shy and wary in its general habits. Its note is a loud clear trumpet-like sound. It feeds on various vegetable substances, such as shoots, roots, grain, where obtainable, berries, &c., and insects, small reptiles, and even small mammals. Its nest is usually rather a scanty, simple structure, and is placed on the ground, and the eggs, 2 in number, are usually deposited from the middle of May to the middle of June, and vary from light olive-grey to olive-brown more or less streaked and blotched with pale brown shell spots and reddish brown surface markings, and measure about 3·61 by 2·46.

1002. Black-necked Crane.

GRUS NIGRICOLLIS.

Grus nigricollis, Prjev. Mongol. i Strana Tangut. ii. p. 135, tab. xix. (1876); Tegetm. and Blyth, Nat. Hist. Cranes, p. 70, pl. 1 (1881); Sharpe, Cat. B. Br. Mus. xxiii. p. 258; Blaauw, Monogr. Cranes, p. 8, pl. ii.

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♂ *ad.* General colour pale ashy grey, nearly white; crown naked, rough, red in colour, sparsely covered with a few small hairs; head and upper neck smoky black; a small white spot behind each eye; primaries and secondaries, spurious wing, and tail black; inner secondaries falcated, elongated, slightly decomposed and erectable; bill greenish horn; legs black; iris yellow. Culmen 4·8, wing 25·3, tail 9·3, tarsus 10·2 inch.

Hab. Koko-nor and Tibet.

I find nothing on record respecting the habits or nidification of this species, except that its cry is said to resemble that of *A. leucogeranus*, and that it is supposed to breed in the Koko-nor district.

1003. Manchurian Crane.

GRUS JAPONENSIS.

Grus japonensis (P. L. S. Müller), Natursystem, Suppl. p. 110 (1776); Seebohm, B. Jap. Emp. p. 351; Sharpe, Cat. B. Br. Mus. xxiii. p. 258; Blaauw, Monogr. Cranes, p. 11, pl. 3 and pl. xvii. fig. 2 (egg); *G. viridirostris*, Vieill. Encycl. Méth. iii. p. 1141 (1823); Tegetm. and Blyth, Nat. Hist. Cranes, p. 53; David and Oust. Ois. Chine, p. 435; Tacz. F. O. Sib. O. p. 806; *G. montignesia*, Bp. Compt. Rend. xxxvii. p. 661 (1854); Sclater, in Wolf's Zool. Sketches, ii. pl. 46.

Tancho, Jap.

♀ *ad.* (Japan). General colour pure white; crown bare, papillose crimson; cheeks, throat, and hind neck slate-grey; region over and below the eye and a band from the occiput down the hind neck pure white; secondaries black; legs greyish black; bill greenish horn; iris dark brown. Culmen 6·3, wing 25·0, tail 9·0, tarsus 10·2 inch.

Hab. South-eastern Siberia, Manchuria, Japan, Corea, and Northern China, but of rare occurrence south of the Great Wall.

Is said to frequent the large open plains, and is a migrant in S.E. Siberia, arriving in the Ussuri country early in April and leaving in November. It breeds in the large marshy plains which are interspersed with small lakes, making a simple nest on the ground, and deposits 2 eggs, which are isabelline yellow in colour, marked with pale reddish grey shell blotches and light olivaceous brown surface markings, and measure about 4·05 by 2·53.

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1004. Hooded Crane.

GRUS MONACHUS.

Grus monachus, Temm. Pl. Col. v. pl. 555 (1835); id. and Schleg. Faun. Jap. p. 119, pl. 75; David and Oust. Ois. Chine, p. 434; Tegetm. and Blyth, Nat. Hist. Cranes, p. 71; Sharpe, Cat. B. Br. Mus. xxiii. p. 257; Blaauw, Monogr. Cranes, p. 15, pl. iv.

Nabe-dzuru, Jap.

Ad. (Japan). Upper and under parts slaty grey, the former with brownish, and the latter with greyish margins to the feathers; primaries, primary coverts, secondaries, tail, and tail-coverts slaty black; head and most of the neck pure white; forehead covered with black hair-like bristles; fore crown bare, papillose, red; bill and upper eyelids yellowish horn; legs blackish horn; iris orange-brown. Culmen 4·5, wing 21·0, tail 7·0, tarsus 8·5 inch.

Hab. Eastern Siberia, Mongolia, Manchuria, wintering in China, Corea, and occasionally in Japan.

In general habits it does not differ from its allies. It breeds probably north of Dauria, but its nest and eggs are as yet unknown.

1005. Canadian Crane.

GRUS CANADENSIS.

Grus canadensis (Linn.), Syst. Nat. i. p. 234 (1766); Ridgway, p. 135; Sharpe, Cat. B. Br. Mus. xxiii. p. 256; Blaauw, Monogr. Cranes, p. 20, pl. vi.; *G. fraterculus*, Cass. in Baird Cass. and Lawr. B. N. Am. p. 656 (1858); Tegetm. and Blyth, Nat. Hist. Cranes, p. 78; Tacz. F. O. Sib. O. p. 800; *G. mexicana* (P. L. S. Müller), Natur-syst. Suppl. p. 110 (1776); Ridgway, p. 135; Sharpe, Cat. B. Br. Mus. xxiii. p. 254.

♂ *ad.* (N. America). Crown and lores bare, reddish, more or less covered with blackish hairs; general colour slate-grey or plumbeous grey, sometimes tinged with rusty brownish; primaries darker; cheeks and throat whitish; bill blackish, paler at tip; legs and feet blackish; iris crimson. Culmen 4·4, wing 18·5, tail 7·7, tarsus 8·0. Sexes alike.

Hab. North America, from Alaska and Hudson's Bay, south to Mexico, Florida, and Georgia in winter.

Obtained twice in North-eastern Siberia on the promontory of Chukotskŏi Noss, one of the specimens being in the Warsaw Museum. *Grus australasiana*, Gould, which inhabits Eastern Australia has also, according to Taczanowski (F. O. Sib. O. 801), been once obtained near Yakutsk.

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1006. Sarus Crane.

GRUS COLLARIS.

Grus collaris, Bodd. Tabl. Pl. enl. p. 52 (1783); (Sharpe), Cat. B. Br. Mus. xxiii. p. 262; Blaauw, Monogr. Cranes, p. 25, pls. vii. vii.*a*; *G. antigone* (nec. Linn.), Tegetm. and Blyth, Nat. Hist. Cranes, p. 47; Radde, Orn. Cauc. p. 391; Dresser, ix. p. 337, pl. 707.

♂ *ad.* (India). General colour bluish grey; head and upper neck bare, papillose, red; the throat, sides, and hind neck covered with black hairs, a patch of ash-grey feathers covering the ears; a ring round the neck below the bare portion, and the ends of the elongated inner secondaries, white; quills blackish brown; bill pale greenish horn, darker at the tip; legs reddish flesh; iris orange. Culmen 7·1, wing 26·5, tail 9·6, tarsus 11·4 inch. Sexes alike.

Hab. India, straggling west to Astrachan, Gurieff, and the Caspian.

In habits this crane does not differ from its congeners, but not being molested is less shy. It frequents similar localities, and makes a large nest of reeds, rushes, &c., and breeds in India from July to November, depositing 2 eggs, which are dull white or creamy buff, more or less marked with purplish grey shell-markings and brown surface spots and blotches, and measure about 3·96 by 2·56.

1007. Demoiselle Crane.

GRUS VIRGO.

Grus virgo (Linn.), Syst. Nat. i. p. 234 (1766); Naum. ix. p. 386, Taf. 232; Dresser, vii. p. 353, pl. 506; Tegetmeier and Blyth, Nat. Hist. Cranes, p. 26; David and Oust. Ois. Chine, p. 436; (Sharpe), Cat. B. Br. Mus. xxiii. p. 269; (Blanf.), F. Brit. Ind. Birds, iv. p. 190; (Tacz.), F. O. Sib. O. p. 810; Lilford, iv. p. 153, pl. 65; (Blaauw), Monogr. Cranes, p. 35, pls. x. x.*a*, and xviii. fig. 1 (egg).

Demoiselle de Numidie, French; *Grulla moruna*, Span.; *Damigella di Numidia*, Ital.; *Jungfernkranich*, German; *Malŏi-Juravl*, *Stepnoi-Juravl*, Russ.; *Karkarra*, Hindu.

♂ *ad.* (S.E. Europe). Crown, nape, a line down the hind neck, upper parts, lower breast, and under parts ashy blue-grey; forehead, sides of head, throat, and neck deep black; feathers on the upper breast black, elongated, pointed; from behind the eye on each side a full white tuft of feathers 4 to 5 inches long; quills black, the inner short secondaries tinged with grey, the innermost ones blue-grey, long, pointed, tipped with blackish; legs black; bill olivaceous brown, reddish towards the

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point; iris deep red. Culmen 2·8, wing 19·2, tail 7·0, tarsus 7·5 inch. Female similar but rather duller, the white tufts on the sides of the head smaller.

Hab. Southern Europe, chiefly in the east, has strayed once to Orkney and Heligoland, and twice to Sweden; Africa in winter as far south as Natal; Asia Minor, Central Asia, Mongolia, Dauria, and Northern China, wintering in India.

Frequents large open plains, generally not far from water, which it can visit during the heat of the day. In habits it resembles *G. communis*, but is remarkable from its peculiar saltatory exercises in which it indulges in the spring. It feeds on grain, insects, worms, and even reptiles, and its note is a loud trumpet-like call. In the autumn and winter it often collects in large flocks. It breeds in May or June, not making any regular nest, but scratches a hole in the soil, round which it often collects small stones, and deposits 2 eggs, which resemble those of *G. communis*, but are as a rule darker and more clearly marked, and also smaller, measuring about 3·31 by 2·11.

1008. White-necked Crane.

GRUS VIPIO.

Grus vipio, Pall. Zoog. Ross. As. ii. p. 111; David and Oust. Ois. Chine, p. 435; *G. leucauchen*, Temm. Pl. Col. v. pl. 449 (1838); Tegetm. and Blyth, Nat. Hist. Cranes, p. 35; Tacz. F. O. Sib. O. p. 804; Seebohm, B. Jap. Emp. p. 352; (Sharpe), Cat. B. Br. Mus. xxiii. p. 266; (Blaauw), Monogr. Cranes, p. 49, pl. xiii. and pl. xviii. fig. 4 (egg)?

Tan-cho, Jap.

ad. (Japan). Upper and under parts slaty grey, the latter darker; wing-coverts paler, the greater ones white at the ends; secondaries white at the base, otherwise black, the inner ones white, falcated and elongated; tail dark grey; forehead, orbital and aural regions bare, red, and covered with black hairs; entire hind neck, sides of the upper neck and throat pure white; bill greenish; legs bluish pink; iris brownish yellow. Culmen 6·50, wing 24, tail 8·0, tarsus 11·0 inch. Sexes alike.

Hab. Eastern Siberia, Mongolia, Manchuria, Corea, Japan, North-eastern China in winter.

In its general habits it is said to resemble *G. virgo*, and like that species indulges in peculiar saltatory exercises in the spring. It frequents open places, both dry and marshy, and is as a rule very shy and wary. Its nest is situated on a dry

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patch in the marshes, and its 2 eggs bear a considerable resemblance to those of *G. communis*, but are larger, measuring about 3·95 by 2·62.

1009. Siberian Crane.

GRUS LEUCOGERANUS.

Grus leucogeranus, Pall. Reis. Russ. Reichs. ii. Anhang, p. 714, tab. F. (1773) ; Gould, B. of E. iv. pl. 271 ; Temm. and Schlegel, Faun. Jap. p. 118, pl. 73 ; David and Oust. Ois. Chine, p. 436 ; Dresser, vii. p. 359, pl. 507 ; Tegetm. and Blyth, Nat. Hist. Cranes, p. 38 ; Radde, Orn. Cauc. p. 391 ; Seebohm, B. Jap. Emp. p. 349 ; (Sharpe), Cat. B. Br. Mus. xxiii. p. 261 ; (Blaauw), Monogr. Cranes, p. 52, pl. xiv. and pl. xviii. fig. 5 (egg) ; Tacz. F. O. Sib. O. p. 809 ; Blanf. F. Brit. Ind. Birds, iv. p. 187.

Belõi-Jouravl, *Sterkh*, Russ. ; *Kügolok*, Tartar. ; *Kâre-Khar*, Hindu. ; *Shirat-dzuru*, *Sodeguro*, Jap.

♂ *ad.* (N.W. India). Entire plumage pure white except the primaries which are black ; inner secondaries and scapulars elongated ; fore part of head to behind the eye bare, with a few scattered hairs ; bill umber-brown ; the nasal membrane and basal part, and the bare part of the head red ; legs pale dull reddish pink ; iris bright pale yellow. Culmen 7·4, wing 23·4, tail 8·0, tarsus 10·9 inch. Female similar but rather smaller. Young birds have the head feathered, dingy brown, and the plumage tinged with buff.

Hab. Eastern Europe (rare), Mongolia, Manchuria, Eastern Siberia, Dauria, the Amoor and Ussuri country, Japan, Northern China ; a winter visitant to N.W. India.

Frequents large open places and marshes, or localities where the water is shallow, and feeds on rush seeds, bulbs, corms, and even leaves of aquatic plants, being exclusively a vegetable eater. When not alarmed its note is a mere chirrup, and its alarm cry is very feeble as compared with that of other cranes, being a mere repetition of the syllables *Karekhur*. I do not find any particulars on record respecting its nidification, but it is said to breed in Mongolia, and Mr. Blaauw figures its egg.

OTIS, Linn., 1766.

1010. The Bustard.

OTIS TARDA.

Otis tarda, Linn. Syst. Nat. i. p. 264 (1766) ; Naum. vii. p. 13, Taf. 167, 168 ; Hewitson, i. p. 285, pl. lxxiii. fig. 1 ; Gould, B. of E. iv. pl. 267 ; id. B. of Gt. Brit. iv. pl. 17 ; Dresser, vii. p. 369, pl. 508 ; Sharpe, Cat. B. Br. Mus. xxiii. p. 284 ; Blanf. F. Brit. Ind. Birds, iv. p. 193 ; Saunders, p. 523 ; Lilford, v. p. 1, pl. i.

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Outarde barbue, French; *Batarda*, Portug.; *Abutarda*, Span.; *Otarda*, Ital.; *Grosstrappe*, German; *Stor-Trappe*, Dan.; *Stor-Trappe*, Swed.; *Dropha*, Russ.; *Dudak*, Tartar; *Houbara*, Arab.

♂ *ad.* (Spain). Head pale ashy grey; hind neck and upper parts yellowish red, the latter barred with black; tail at base and tip greyish white otherwise reddish, with a broad subterminal black band, the middle feathers with a central black band; quills greyish black, the secondaries chiefly white; larger median coverts and spurious wing greyish white; at the base of the mandible on each side a bunch of long bristles; throat and fore neck greyish white; lower neck and breast reddish chestnut, marked with black, below which is a pale ashy grey band; under parts white; bill dull plumbeous grey, blackish towards the tip; legs dirty earth-grey; iris dark brown. Culmen 2·5, wing 26·0, tail 11·0, tarsus 6·2 inch. The female is smaller, has the chin white, the head, neck, and upper breast pale French-grey, and the rufous pectoral band and whiskers are wanting.

Hab. Central and Southern Europe, now rare in Southern Sweden, formerly an inhabitant of England but now an occasional straggler; rare in North Africa, Asia Minor, and Central Asia, and has once occurred in North-west India.

Inhabits plains, in preference grass land and cultivated localities where the country is open. It is eminently wary and shy, flies with ease, and usually when alarmed seeks safety in flight. It feeds on vegetable matter of various kinds, and to some extent also on insects. The nest is a mere depression in the soil, and the eggs, which are usually deposited in May, 2 to 3 in number, are dull olive-brown or olive-green clouded with dark brown, sometimes almost uniform dull bluish, and measure about 3·22 by 2·12.

1011. Siberian Bustard.

OTIS DYBOWSKII.

Otis dybowskii, Tacz. J. f. O. 1874, p. 331; Seebohm, B. Jap. Emp. p. 355; Sharpe, Cat. B. Br. Mus. xxiii. p. 286; Tacz. F. O. Sib. O. p. 790.

Toodok, Buriat; *No-gan*, Jap.; *Ti-pou*, Chinese.

♂ *ad.* Differs from *O. tarda* in being smaller, the black dorsal bands are sparser, the wing-coverts white, the bristles at the base of the bill more numerous and pure white, the front of the neck covered with a full mane of long, narrow, curled white feathers. Culmen 3·0, wing 25·19, tail 9·63, tarsus 5·52 inch. The young bird has fewer moustachial bristles and lacks the mane on the front of the neck.

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Hab. Dauria, the Ussuri country; wintering in the north and middle of China, Manchuria, Corea, and Japan.

In habits it is said to resemble our European bird, and like that it frequents open plains. Its eggs, which also closely resemble those of *O. tarda*, are usually deposited in May or in June, in a depression scratched in the ground lined with dry grass, 4 being the usual number.

TETRAX, Leach, 1816.

1012. Little Bustard.

TETRAX CAMPESTRIS.

Tetrax campestris, Leach, Syst. Cat. Mamm. &c. Brit. Mus. p. 28 (1816); *Otis tetrax*, Linn. Syst. Nat. i. p. 264 (1766); Naum. vii. p. 52, Taf. 169; Hewitson, i. p. 287, pl. lxxiii. fig. 2; Gould, B. of E. iv. pl. 269; id. B. of Gt. Brit. iv. pl. 18; Dresser, vii. p. 383, pl. 509; (Sharpe), Cat. B. Br. Mus. xxiii. p. 287; Blanford, F. Brit. Ind. Birds, iv. p. 193; Saunders, p. 525; Lilford, v. p. 5, pl. 2.

Canepétière, French; *Cizão*, Portug.; *Sison*, Span.; *Gallina-pratajola*, Ital.; *Zwergtrappe*, German; *Dvergtrappe*, Dan.; *Strepet*, Russ.; *Maesgaek*, Tartar; *Chota-ti lur*, Punjab.

♂ *ad.* (Spain). Crown sandy brown marked with black; sides of head and throat plumbeous, marked with black, this colour extending in a V-shape down the neck; below this a white collar, then glossy black all round lower neck and on fore breast, and then another white collar; upper parts sandy brown barred and blotched with black; primaries black, but white at base, the inner ones tipped with white; secondaries white, the inner ones like the back; larger wing-coverts white marked with black, the lesser like the back; middle tail-feathers like the back, the outermost white barred with black; under parts white; bill horn becoming black at tip, base of lower mandible yellowish; legs ochreous; iris reddish brown. Culmen 0·70, wing 9·50, tail 4·50, tarsus 2·20 inch. In the winter the sides of the head, neck and fore neck are streaked and mixed black and buff, the breast thin and throat white. The female in spring has the upper parts paler, the sides of the head and neck sandy brown striped with black, the chin and under parts white, the breast tinged with ochre and marked with black.

Hab. Central and Southern Europe, but as a straggler as far north as Sweden and Great Britain; North Africa; Asia Minor, and Central Asia, east to Afghanistan and N.W. India.

Like its larger ally this Bustard inhabits open plains, more especially where the soil is under cultivation, and is extremely

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wary and difficult of approach, but it is said to squat down to escape observation. It feeds on vegetable substances and insects. During the pairing season the male utters a harsh cry, *trec, trec*, which may be heard at a considerable distance. Its nest is a mere depression in the soil, and the number of eggs, so far as my experience goes, is 3 to 4, but Mr. Aksakoff states that as many as 8 to 12 are deposited. These are usually laid in May, and vary from light greenish olive with indistinct brown blotches, to rich dark uniform olive brown, and are glossy in texture of shell; in size they average about 1·95 by 1·45.

Eupodotis arabs (Linn.), which inhabits Northern Africa, is said to occasionally occur just within the limits of the Palæarctic area but cannot well be included as a true Palæarctic species.

HOUBARA, Bp., 1831.

1013. Houbara Bustard.

HOUBARA UNDULATA.

Houbara undulata (Jacq.), Beitr. Gesch. Vög. p. 24, pl. 9 (1784); (Dresser), vii. p. 391, pl. 510; Sharpe, Cat. B. Br. Mus. xxiii. p. 320; *Otis houbara*, Desf. Mém. Acad. Roy. Sc. p. 496, pl. x. (1787); Gould, B. of E. iv. p. 268.

Houbara, Raad, Arabic; *Begunez*, Russ.

♂ *ad.* (N. Africa). Crown reddish ochreous marked with black; a full crest of long white feathers; chin white; sides of head and neck, fore neck and hind neck white vermiculated with blackish and tinged with pale ochreous brown; elongated ruff black on the sides, white in front of neck; upper parts rufescent ochreous boldly barred with black; the wing-coverts paler; primaries white at the base, otherwise black; tail rufescent ochreous with five bars of dove-blue, the terminal bars marked with black and tipped with white; under parts white; bill greyish brown, darker at the point, yellowish towards the base; legs greenish yellowish grey; iris greenish yellow. Culmen 1·8, wing 14·3, tail 8·5, tarsus 3·6 inch. The female is similar but with the crest and ruff less developed.

Hab. North Africa; Canaries; a rare straggler to Spain, Southern France, Italy, and Greece; Palestine; Armenia.

Inhabits open flat country, both the true desert and cultivated localities, and like its allies is extremely shy and wary. It feeds on vegetable matter, insects, caterpillars, &c., and even small reptiles. In North Africa it is highly esteemed as a quarry by falconers. Its nest is a mere depression in the soil, and the eggs, 4 to 5 in number, are deposited in May, and are olivaceous brown blurred with dashes of dark brown and here

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and there spotted with clear dark brown. In size they measure about 2·38 by 1·77, and are generally slightly pointed towards each end.

The Fuerteventuran bird has been separated as a subspecific form under the name *Otis undulata fuertaventuræ*, but I do not consider with sufficient reason.

1014. Macqueen's Bustard.

HOUBARA MACQUEENI.

Houbara macqueeni (Gray and Hardw.), Ill. Ind. Zool. ii. pl. 47 (1834); (Naum.), xiii. p. 216, Taf. 170; (Gould), B. of As. vii. pl. 58; Newton, P.Z.S. 1861, pl. xxxix. fig. 5 (egg); (Dresser), vii. p. 395, pl. 511; Sharpe, Cat. B. Br. Mus. xxiii. p. 318; Blanf. F. Brit. Ind. Birds, iv. p. 196; Saunders, p. 527; Lilford, v. p. 10, pl. 3.

Tilúr, Punjabi; *Talúr*, Sindhi; *Hobára*, Persian.

♂ *ad.* (N.W. India). Differs from *H. undulata* in having the crest-feathers black on the terminal portion, the back finely vermiculated and blotched with black on a rufescent ochreous ground, the elongated pectoral feathers blue-grey, and not white, and the tail with only three bars; bill blackish above, paler below; legs and feet dull yellow; iris yellow. Culmen 1·7, wing 15·4, tail 8·6, tarsus 3·9 inch.

Hab. N.W. India; Afghanistan, Persia, Central Asia; a rare straggler to Europe, and has been met with in Germany, Poland, Finland, Öland, Belgium, Holland, and four times in Great Britain.

In habits and nidification this species does not differ from *H. undulata*, and its eggs closely resemble those of that species.

ŒDICNEMUS, Temm., 1815.

1015. Stone Curlew.

ŒDICNEMUS SCOLOPAX.

Œdicnemus scolopax (S. G. Gmel.), Reise Russl. iii. p. 87, pl. 16 (1774); Dresser, vii. p. 401, pl. 512; Blanf. F. Brit. Ind. Birds, iv. p. 204; Saunders, p. 529; Lilford, v. p. 11, pl. 4; Poynting, i. p. 6, pl. 1; *C. œdicnemus*, Linn. Syst. Nat. i. p. 255 (1766); (Sharpe), Cat. B. Br. Mus. xxiv. p. 4; *Œ. crepitans*, Temm. Man. d'Orn. p. 332 (1815); Naum. vii. p. 92, Taf. 172; Gould, B. of E. iv. pl. 288; id. B. of Gt. Brit. iv. pl. 35; Hewitson, i. p. 288, pl. lxxiv.

Œdicnème criard, French; *Alcaravão*, Portug.; *Alcaraván*, Span.; *Occhione*, Ital.; *Triel*, *Dickfuss*, German; *Griel*, Dutch;

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Triel, Dan.; *Tjockfot*, Swed.; *Avdotka*, *Läshin*, Russ.; *El Karuana*, Moor.; *Keruan*, Arab.; *Karwanak*, *Barsiri*, Hindu.

♂ *ad.* (England). Upper parts pale brown streaked with dark brown, the sides of the head paler; a light streak over the eye and a dark one from the base of the mandible to the ear-coverts; wings, when extended, with two distinct white bars; base of tail and middle feathers mottled pale and dark brown, tail then whitish tipped with black; under parts white, the breast, lower throat, and flanks washed with buff and streaked with blackish brown; under tail-coverts rufous buff; bill greenish yellow at base, blackish at point; legs pale yellow; iris golden yellow. Culmen 1·60, wing 9·5, tail 5·0, tarsus 3·0 inch. Sexes alike. The young bird resembles the adult, but the markings are less clearly defined.

Hab. Temperate and Southern Europe, a migrant in the northern portions of its range, but otherwise chiefly resident; Great Britain; rare in Ireland; accidental in Scandinavia; North Africa south to Abyssinia; Asia Minor and Asia east to India, Burma, and Ceylon, north into Central Asia.

Inhabits open, flat country, chiefly desert sandy places, and not, as a rule, cultivated ground; it is to some extent crepuscular, and feeds late into the night. In its general habits it reminds one much of the Bustards. Its cry is a loud and shrill *Curlew*, chiefly uttered at night. It feeds on worms, insects, larvæ, snails, &c. Its nest is hardly a depression on the soil in some dry place, and its eggs, 2 to 3 in number, are usually laid from early in April to the end of June, and are stone buff, sometimes with a greenish tinge, profusely spotted and blotched with blackish brown surface markings, and purplish grey or greyish brown shell blotches, and measure about 2·10 by 1·47. Sometimes two broods are reared in the season.

GLAREOLA, Briss., 1760.

1016. Pratincole.

GLAREOLA PRATINCOLA.

Glareola pratincola (Linn.), Syst. Nat. i. p. 345 (1766); Gould, B. of Gt. Brit. iv. pl. 46; Dresser, vii. p. 411, pl. 513, fig. 1; Sharpe, Cat. B. Br. Mus. xxiv. p. 53; Blanf. F. Brit. Ind. Birds, iv. p. 216; Saunders, p. 531; Lilford, v. p. 15, pl. 5; Poynting, p. 7, pl. 2; *G. torquata*, Meyer, Taschenb. Deutsch. Vogelk. ii. p. 404 (1816); Naum. ix. p. 437, Taf. 234; Hewitson, ii. p. 290, pl. lxxv.; Gould, B. of E. iv. pl. 265.

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Perdrix de mer, French; *Perdiz do mar*, Portug.; *Canastera*, Span.; *Pernice di mare*, Ital.; *Halsband-Giarol*, German; *Tirkuschka-lugovaya*, Russ.

♂ *ad.* (Spain). Upper parts dull earth-brown; nape, sides of head, and ear-coverts washed with rusty yellow; primaries blackish with a faint greenish gloss; secondaries broadly tipped with white; outer tail-feathers white on the outer web and on the base of inner web, otherwise blackish, the rest white on the basal, blackish on the terminal half; upper tail-coverts white; lores and a streak passing under the eye, round the throat, forming a shield, black, the innermost part yellowish buff; breast and flanks pale greyish brown; rest of under parts white; under wing-coverts and axillaries rich fox-red; bill black, the base of lower, and basal edge of upper mandible red; legs brownish black; iris dark brown. Culmen 0·7, wing 7·5, tail, deeply forked, 4·8, the middle feathers 2·3 shorter than the outer ones, tarsus 1·25 inch. Sexes alike. The young bird has the feathers on the upper parts with paler and white margins, the throat dirty yellowish and the breast striped and marked with blackish.

Hab. Southern Europe, occasionally straying as far north as Shetland; North Africa, moving in winter as far south as Natal; Asia Minor and Central Asia as far east as North-west India.

Inhabits open flat ground and desert places in the vicinity of pools or swamps, and is very Plover-like in its general habits. It feeds on insects of various kinds, chiefly coleoptera, which it both picks up from the ground, and captures on the wing. Its note is a shrill whistle, *kia, kia*, usually uttered on the wing. It makes no nest, but deposits in May its 2 to 4 eggs in a slight depression on the ground. These are oval, varying from ochreous yellow to pale slate, richly spotted and blotched with greyish brown underlying-, and blackish brown surface-markings, and measure about 1·22 by 0·96.

1017. Subsp. Glareola orientalis.

Glareola orientalis, Leach, Trans. Linn. Soc. xiii. p. 132, pl. xiii. (1820); Gould, B. of Austral. vi. pl. 23; David and Oust. Ois. Chine, p. 431; Sharpe, Cat. B. Br. Mus. xxiv. p. 58; Blanf. F. Brit. Ind. Birds, iv. p. 214; Tacz. F. O. Sib. O. p. 813.

♂ *ad.* (India). Differs from *G. pratincola* in having the tail less forked, the secondaries not white at the ends, the lores black, the chin and throat pale rufous, and the breast more rufous. Culmen 0·65, wing 7·25, tail 3·15, the middle feathers about an inch only shorter than the outer ones, tarsus 1·3 inch.

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Hab. India, Ceylon, Burma, the Andamans and Nicobars; South-eastern Siberia, Mongolia, and China, south to the Malay Archipelago and North Australia.

In habits and nidification it does not differ from *G. pratincola*, and its eggs are undistinguishable from those of that species.

1018. Nordmann's Pratincole.

GLAREOLA MELANOPTERA.

Glareola melanoptera, Nordm. Bull. Soc. Imp. Nat. Mosc. ii. p. 314 (1842); Gould, B. of As. vii. pl. 63; Dresser, vii. p. 419, pl. 513, fig. 2; Sharpe, Cat. B. Br. Mus. xxiv. p. 57; *G. nordmanni*, Fischer, Bull. Soc. Imp. Nat. Mosc. ii. p. 314, pl. 2 (1842).

Tirkuschka stepnaya, Russ.

♂ *ad.* (Red Sea). Differs from *G. pratincola* in having the upper parts, breast, and flanks rather darker, the secondaries not tipped with white, and the under wing-coverts and axillaries jet black. Culmen 0·75, wing 7·3, tail 4·3, tarsus 1·4 inch.

Hab. South-east Europe, in Russia north to about 56½° N. lat.; Africa south to Natal; Asia Minor and Asia east to the Altai Mountains.

In general habits and nidification it does not differ from *G. pratincola*, and its eggs resemble those of that species, but appear, as a rule, to have the ground-colour more ochreous in tinge and the markings are bolder.

CURSORIUS, Lath., 1790.

1019. Cream-Coloured Courser.

CURSORIUS GALLICUS.

Cursorius gallicus (Gmel.), Syst. Nat. i. p. 692 (1788); Hewitson, Ibis, 1859, p. 79, pl. ii. fig. 3 (egg); Gould, B. of E. pl. 266; id. B. of Gt. Brit. iv. pl. 44; Dresser, vii. p. 425, pl. 514; Sharpe, Cat. B. Br. Mus. xxiv. p. 34; Blanf., F. Brit. Ind. Birds, iv. p. 211; Saunders, p. 533; Lilford, v. p. 19, pl. 6; Poynting, p. 11, pl. 3; *C. europæus*, Lath. Ind. Orn. ii. p. 751 (1790)); Naum. vii. p. 77, Taf. 171; *C. isabellinus*, Meyer, Taschenb. Deutsch. Vogelk. ii. p. 328 (1810); *C. isabellinus* var. *bogolubovi*, Zarudn. Bull. Soc. Imp. Nat. Mosc. (7), lxi. p. 327 (1885).

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Courvite isabelle, French; *Corrione biondo*, Ital.; *Europäische-Rennvogel*, German; *Keruan djebeli*, Arab.; *Engaño-muchacho*, in the Canaries.

♂ *ad.* (N. Africa). Forehead rufous isabelline, becoming grey towards the hind crown, which, with the nape is ashy blue-grey; a broad white stripe above each eye, joining on the nape, and bordered below the eye underneath, and on the nape above with black; upper parts rufescent isabelline; primaries and primary coverts blackish; middle tail-feathers like the back, the rest isabelline becoming whitish at the top, and with a subterminal blackish patch; under parts isabelline, the lower abdomen nearly white, the breast tinged with grey, and the lower flanks tinged with blackish; axillaries and under wing-surface black; beak dark horn but greyish at the base below; legs greyish white; iris dark brown. Culmen 1·2, wing 6·05, tail 2·62, tarsus 2·15 inch. Sexes alike. The young bird is duller, has the plumage marked with crescentic dark lines and lacks the black, white, and blue on the head.

Hab. North Africa, occasionally straying into continental Europe, and not seldom as far north as Great Britain; occurred once in Denmark and once in Finland; Canaries and Cape Verde Islands; Asia, east to North-west India, and south to Arabia.

Is essentially a desert bird, frequenting dry, arid, sandy plains. It is as a rule shy, and usually runs away, which it does with great swiftness, on the approach of an intruder, or squats on the sand, when it is difficult to distinguish it from the surroundings. Its alarm-note resembles that of a Plover, and in the pairing season it utters a note like *rererer*. It feeds on insects of various kinds. It makes no nest, but in March deposits its eggs, 2, occasionally 3, in number, in a depression in the sandy soil. These are stone-buff or stone-ochre, closely spotted and marbled with purplish grey underlying-, and reddish brown or dull brown surface-markings; occasionally there is a ring of darker spots round one end. In size they measure about 1·48 by 1·8.

CHARADRIUS, Linn., 1766.

1020. Golden Plover.

CHARADRIUS PLUVIALIS.

Charadrius pluvialis, Linn. Syst. Nat. i. p. 254 (1766); Hewitson, ii. p. 291, pl. lxxvi. fig. 2; Gould, B. of E. iv. pl. 294; Dresser, vii. p. 435, pls. 515 fig. 1, 518 figs. 1, 2, 519 fig. 2; Sharpe, Cat. B. Br. Mus. xxiv. p. 191; Blanf. F. Brit. Ind. Birds, iv. p. 235; Saunders, p. 547; Lilford, v. p. 39, pl. 14; Poynting, p. 39, pl. 10; *C. africarius*, Linn. ut suprà; *C. auratus*, Suckow, Naturg. Th. ii. p. 1592 (1801); Naum. vii. p. 138, Taf. 173.

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Pluvier doré, French; *Tarambola*, Portug.; *Chorlito*, Span.; *Piviere*, Ital.; *Gold-Regenpfeifer*, German; *Goud Plevier*, Dutch; *Brokfugl*, Norweg. and Dan.; *Ljung-pipare*, Swed.; *Hutti*, Lapp.; *Tunturikurmitsa*, Finn.; *Rshanka*, *Sivka*, Russ.

♂ *ad.* (Sweden). Crown, nape, and upper parts generally black or brownish black, spotted and marked with golden yellow, and to a small extent with white; forehead and superciliary stripe whitish; tail blackish, transversely marked with whitish and a little golden yellow; sides of face, neck, breast, and under parts black; flanks mottled with dusky; sides of tail-coverts white; under wing-coverts and axillaries white; bill black; legs bluish grey; iris dark brown. Culmen 1·0, wing 7·1, tail 3·4, tarsus 1·6 inch. Sexes alike, except that the female has the breast somewhat tinged with brown. In the winter the black on the throat, neck, and under parts is wanting, these parts being white; chest and flanks mottled with greyish brown and washed with golden yellow.

Hab. Europe generally, to the North Cape, breeding in Iceland, straying to Greenland, and breeding as far south as North Central Europe; Africa in winter, south to Cape Colony; Madeira; Asia, east to the Yenesei river, south, occasionally, to India.

Frequents open ground, moors, swampy localities, cultivated ground, and the sea-shore, and is as a rule shy and wary. It feeds on worms, insects, larvæ, and to some extent on berries and seeds, and feeds chiefly at night, being semi-nocturnal. Its call-note resembles the syllable *tlui*, and its nuptial call is a long shrill note, *taludl-taludl-taludl-taludl*. Its nest is a mere depression in the ground, very scantily lined with a few grass-bents, and the eggs, usually 4 in number, are deposited late in April or early in May, and are pale clay-brown or yellowish grey in ground-colour, and sometimes reddish buff, spotted and blotched with purplish brown underlying-, and rich dark brown overlying surface-markings, and in size measure about 2·0 by 1·28.

1021. Eastern Golden Plover.

CHARADRIUS DOMINICUS.

Charadrius dominicus, P. L. S. Müller, Natursyst. Suppl. p. 116 (1776); Sharpe, Cat. B. Br. Mus. xxiv. p. 195; Ridgway, p. 174; Saunders, p. 549; Poynting, p. 49, pl. 12; *C. fulvus*, Gmel. Syst. Nat. i. p. 687 (1788); Dresser, vii. p. 443, pls. 516, 517, figs. 2, 3; Tacz. F. O. Sib. O. p. 815; Blanf. F. Brit. Ind. Birds, iv. p. 234; Poynting, p. 45, pl. 11; *C. virginicus*, Licht. Verz. Doubl. p. 70 (1823).

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Chata-battan, Hindu.; *Muneguro-shigi*, Jap.

ad. (E. Asia). Differs from *C. pluvialis* in being smaller, with the tarsus longer and more slender, and in having the axillaries smoky brown, and the under wing-coverts smoky brown with a dash of white here and there. Culmen 0·95, wing 6·25, tail 2·5, tarsus 1·55 inch.

Hab. Asia east of the Yenesei, north to Kamchatka, east to Japan, south in winter through China, India, and the Philippines to Australia; East Africa; Greenland; North and South America from the extreme north to Patagonia; has occurred as a straggler in Great Britain, Heligoland, Poland, Spain, and Italy.

In general habits it does not differ from *C. pluvialis*, but its note is said to differ, and to more resemble that of the Grey Plover. Its nest and eggs are also similar except that the latter are as a rule paler in ground-colour. In size they measure about 1·95 by 1·32.

I agree with Dr. Sharpe in uniting the Asiatic and American species, though the Asiatic form is generally smaller, but it does not otherwise differ.

SQUATAROLA, Leach, 1816.

1022. Grey Plover.

SQUATAROLA HELVETICA.

Squatarola helvetica (Linn.), Syst. Nat. i. p. 250 (1766); Audub. B. Am. pl. 334; Gould, B. of Gt. Brit. iv. pls. 36, 37; Dresser, vii. p. 455, pls. 515 fig. 2, 517 fig. 1, 518 fig. 3, 519 fig. 1; Sharpe, Cat. B. Br. Mus. xxiv. p. 182; Newton, P.Z.S. 1861, p. 398, pl. 39, fig. 2 (egg); Tacz. F. O. Sib. O. p. 835; Blanf. F. Brit. Ind. Birds, iv. p. 236; Saunders, p. 551; Lilford, v. p. 41, pl. 15; Poynting, p. 55, pls. 13, 14; *Ch. squatarola* (Linn.), Syst. Nat. i. p. 252 (1766); Naum. vii. p. 249, Taf. 178; Ridgway, p. 173.

Vanneau-Pluvier, French; *Tarambola*, Portug.; *Avefria*, Span.; *Pivieressa*, Ital.; *Kibitz-Regenpfeiffer*, German; *Goudkievit*, Dutch; *Strand-brokfugl*, Dan.; *Kust-brokfugl*, Norweg.; *Kust-pipare*, Swed.; *Rantakurmitsa*, Finn.; *Rshanka-tules*, Russ.; *Barra-batan*, Hindu.

♂ *ad.* (Spain). Forehead, sides of crown and of neck, flanks, abdomen, thighs, and under tail-coverts white; crown, hind neck, and upper part black spotted and banded with white; tail white barred with black; sides of face, throat, and breast black; under wing-coverts white or

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whitish; axillaries black; bill black; legs greyish black; iris dark brown. Culmen 1·2, wing 7·5, tail 2·8, tarsus 1·65, hind toe 0·15 inch. Sexes alike. In winter the upper parts are greyish brown marked with darker brown and white, the under parts white, the throat striped with ashy brown, the breast and flanks indistinctly mottled with greyish brown. In all plumages this species is recognizable by its black axillaries and small hind toe.

Hab. The extreme northern parts of Europe, Asia, and America; in winter migrating south throughout Europe, Africa, Asia, Australia, North and South America.

In general habits it resembles *C. pluvialis*, but it is more of a shore bird than that species. Its call-note is a sharp whistle readily distinguishable from that of *C. pluvialis*. Its food consists of insects, worms, small shell-fish, &c. It breeds in the high north of Eastern Europe, Asia, and America, and like the Golden Plover it makes its nest, which is a mere depression scantily lined with grass-bents, moss, or leaves, on the ground, and deposits in June, or early in July, 4 eggs, which are intermediate in coloration and marking between those of the Lapwing and Golden Plover, but are subject to considerable variation; in size they average 2·0 by 1·35.

ÆGIALITIS, Boie, 1822.

1023. Greater Sand Plover.

ÆGIALITIS MONGOLA.

Ægialitis mongola (Pall.), Reis. Russ. Reichs. iii. App. p. 700 (1776); Seebohm, B. Jap. Emp. p. 308; David and Oust. Ois. Chine, p. 427; (Sharpe), Cat. B. Br. Mus. xxiv. p. 223; Blanf. F. Brit. Ind. Birds, iv. p. 238; Tacz. F. O. Sib. O. p. 822; Ridgway, p. 179; *Æ. inornata* (Gould), B. of Austr. vi. pl. 19.

♂ *ad.* (China). Differs from *Æ. geoffroyi* in being smaller, with a smaller bill and shorter tarsus, the patch on the side of the face (in breeding plumage) broader, and the rufous chest band separated from the white throat by a narrow black line. Culmen 0·75, wing 5·25, tail 2·2, tarsus 1·2 inch.

Hab. Eastern Asia, north to Kamchatka; Dauria, Japan, Mongolia, Corea, China; wintering in the Philippines, Moluccas, and Australia; has occurred in Alaska.

In habits it does not differ from *Æ. geoffroyi*, with which it is very closely allied. It breeds on the sea-shore, the nest

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being a depression in the ground sparingly lined with bents and leaves, and the eggs, 4 in number, are deposited in June, and are said to resemble those of *Æ. semipalmata*, but are larger and have a somewhat deeper ground-colour, in some more olive, in others more buff.

1024. Subsp. Ægialitis geoffroyi.

Ægialitis geoffroyi (Wagl.), Syst. Av. Charadrius, No. 19 (1827); David and Oust. Ois. Chine, p. 426; Dresser, vii. p. 475, pls. 520 fig. 2, 521; (Sharpe), Cat. B. Br. Mus. xxiv. p. 217; Blanf. F. Brit. Ind. Birds, iv. p. 237; *Charadrius leschenaulti*, Less. Man. d'Orn. ii. p. 322 (1828); Layard, B. S. Afr. p. 299.

♂ *ad.* (Syria). Forehead white; crown and nape pale reddish brown, the fore crown crossed by a black band; upper parts dull sandy brown; quills blackish, some of the inner secondaries white on the outer web; from the base of the bill through the eye with the ear-coverts a black streak; a broad rusty red band across the breast; rest of under parts, axillaries, and under wing-coverts white; upper flanks tinged with rusty red; bill blackish; legs plumbeous grey; iris dark brown. Culmen 1·0, wing 5·7, tail 2·4, tarsus 1·5 inch. The female has the fore crown and stripe through the eye brownish grey. In the winter both sexes have the sides of the head pale ashy brown, the forehead, lores, chin, throat, and under parts white, the breast tinged with pale rusty buff.

Hab. South-eastern Europe; Central Asia; Japan and China; wintering in Africa as far south as the Cape Colony and Madagascar; India, the Philippines, and Malay Archipelago to Australia.

Frequents the sea-coasts and the mouths of rivers, sand-banks, coral reefs, &c., and is a shy and wary bird. It feeds on worms, spawn, small insects, &c., and its note is a clear, flute-like whistle. With regard to its breeding habits I find nothing on record. An egg in the British Museum, said to belong to this species, is figured (Cat. Birds' Eggs, Brit. Mus. ii. pl. i. fig. 9), but I have great doubts as to its authenticity.

1025. Subsp. Ægialitis pyrrhothorax.

Ægialitis pyrrhothorax, Gould, B. of E. iv. pl. 299; (Sharpe), Cat. B. Br. Mus. xxiv. p. 226; *Æ. mongolica*, Blanf. F. Brit. Ind. Birds, p. 238 (nec. Pall.).

♂ *ad.* (Yarkand). Differs from *Æ. mongola* in having the upper parts paler, the forehead entirely black with only a whitish spot in front of the eye, and the pectoral band paler. Culmen 0·7, wing 4·95, tail 1·9, tarsus 1·2 inch.

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Hab. Kirghis Steppes, Central Asia east to Tibet; wintering in East Africa, India, and the Malay Peninsula and Islands.

In habits it does not differ from *Æ. geoffroyi*.

1026. Caspian Plover.

ÆGIALITIS ASIATICA.

Ægialitis asiatica (Pall.), Reis. Russ. Reichs. ii. p. 715 (1773); Naum. xiii. p. 225, Taf. 386, figs. 1, 2; Dresser, vii. p. 479, pls. 520 fig. 1, 522; (Sharpe), Cat. B. Br. Mus. xxiv. p. 230; Blanf. F. Brit. Ind. Birds, iv. p. 239; Saunders, p. 537; Lilford, v. p. 27, pl. 9; Poynting, p. 23, pl. 5; *Æ. caspia* (Pall.), Zoogr. Ross. As. ii. p. 136, tab. lviii. (1811).

♂ *ad.* (Kirghis Steppes). Forehead, a broad line over the eye, sides of head, chin, and throat white; upper parts hair-brown, the scapulars margined with ochreous; quills blackish brown; tail dark hair-brown, most of the feathers tipped with white; a broad pectoral band rich rust-red bordered above and below with black; rest of under parts and axillaries pure white; bill blackish; legs ochreous yellow; iris hazel. Culmen 1·0, wing 5·62, tail 2·1, tarsus 1·6. The female is rather paler and duller in colour, and the pectoral band is greyish brown tinged with rufous. In winter both sexes are like the female in summer, but have the pectoral band paler, greyer, and less distinct. Young birds have the feathers on the upper parts margined with ochreous buff or buffy white, and almost lack the pectoral band.

Hab. Transcaspia and Central Asia; Africa as far south as the Cape Colony in winter; has once been obtained in India; a straggler to Europe west of the Volga, having been twice obtained in Heligoland, once in England, and once in Italy.

Frequents sandy localities, chiefly inland, and the desert steppes, and in general habits does not appreciably differ from its allies. It breeds in the Kirghis steppes, on the eastern shores of the Caspian and in Turkestan, and deposits in May, in a mere depression on the ground, 3 eggs, which are ochreous in ground-colour, boldly blotched with blackish brown, and measure about 1·45 by 1·02.

1027. Eastern Dotterel.

ÆGIALITIS VEREDA.

Ægialitis vereda (Gould), P.Z.S. 1848, p. 38; id. B. of Austr. vi. pl. 14; (David and Oust.), Ois. Chine, p. 425, pl. 120; (Sharpe), Cat. B. Br. Mus. xxiv. p. 232; Blanf. F. Brit. Ind. Birds, iv. p. 240.

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♂ *ad.* (Saigon). Differs from *Æ. asiatica* in being larger, with the supercilium less distinct, the hind neck paler than the crown or back, and in having the under wing-lining and axillaries smoky brown and not white; bill deep olive-brown, blacker on the terminal portion; feet light brownish flesh-colour, the toes washed with grey, the joints blackish; eyelids greyish black. Culmen 1·1, wing 6·5, tail 2·5, tarsus 1·8 inch. In all plumages this species is distinguishable by its smoke-brown axillaries and under wing-coverts.

Hab. Mongolia and Northern China; the Malay Peninsula and Australia; has been once obtained on the Andamans.

In general habits it resembles its allies, and is said to be very shy and wary. Like *Æ. asiatica* it frequents sandy plains, and is said to breed on the salt plains in S.E. Mongolia, sometimes at great distances from water, but I do not find any description of its eggs.

1028. Kentish Plover.

ÆGIALITIS CANTIANA.

Ægialitis cantiana (Lath.), Ind. Orn. Suppl. p. 66 (1801); (Naum.), vii. p. 210, Taf. 176; (Hewitson), ii. p. 298, pl. lxxvii. fig. 3; (Gould), B. of E. iv. pl. 298; (id.), B. of Gt. Brit. iv. pl. 40; Dresser, vii. p. 483, pl. 523; David and Oust. Ois. Chine, p. 430; (Seebohm), B. Jap. Emp. p. 309; Saunders, p. 543; Lilford, v. p. 35, pl. 12; Tacz. F. O. Sib. O. p. 833; Poynting, p. 33, pl. 8; ? *Æ. alexandrina* (Linn.), Syst. Nat. i. p. 253 (1766); Sharpe, Cat. B. Br. Mus. xxiv. p. 275; Blanf. F. Brit. Ind. Birds, iv. p. 240.

Pluvier à collier interrompu, French; *Lavandeira*, Portug.; *Charran*, *Pillara*, Span.; *Fratino*, Ital.; *See-Regenpfeifer*, German; *Strandplevier*, Dutch; *Hvidbrystet Strandpiber*, Dan.; *Sortbenet-Sandryle*, Norweg.; *Svartbenta Strandpipare*, Swed.; *Morskoi-suek*, Russ.

♂ *ad.* (Kent). Forehead, a broad streak over the eye, sides of head and neck, under parts, axillaries, and under wing-coverts pure white; above the white on the forehead a black patch; crown and occiput reddish brown; upper parts light brown; primaries blackish brown, the shafts chiefly white; middle tail-feathers blackish brown, the rest white; lores, a streak through the eye, ear-coverts, and a patch on each side of the breast black; bill and legs black; iris dark brown. Culmen 0·8, wing 3·95, tail 1·7, tarsus 1·05. The female has the black markings narrower, and the crown and occiput like the back, but paler. In the winter the feathers on the crown and occiput have brown margins and the black feathers on the head are blurred by white margins.

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Hab. Central and Southern Europe, north to the south coast of England and Southern Scandinavia; Africa in winter, as far south as the Cape Colony; Asia Minor and Asia east to Japan, north to Dauria, south in winter through India and China to Australia.

Frequents the sea coasts, chiefly in sandy and shingly localities, and in general habits resembles *Æ. hiaticola*. It breeds both on the coast and near inland waters, the nest being a mere depression in the soil, sand, or shingle, and the eggs, 3 in number, are usually deposited in May, and are deep ochreous in ground-colour, irregularly marked and blotched with greyish black underlying, and black surface spots and lines; in size they measure about 1·26 by 0·87.

1029. Ringed Plover.

ÆGIALITIS HIATICOLA.

Ægialitis hiaticula (Linn.), Syst. Nat. i. p. 253 (1766); (Naum.), vii. p. 191, Taf. 175; (Hewitson), ii. p. 296, pl. lxxvii. figs. 1, 2; (Gould), B. of E. iv. p. 296; id. B. of Gt. Brit. iv. pl. 41; Dresser, vii. p. 497, pl. 525; David and Oust. Ois. Chine, p. 429; Sharpe, Cat. B. Br. Mus. xxiv. p. 256; Blanf. F. Brit. Ind. Birds, iv. p. 243; Tacz. F. O. Sib. O. p. 827; Saunders, p. 539; Lilford, v. p. 29, pl. 10; Ridgway, p. 177; Poynting, p. 25, pl. 6.

Pluvier à collier, French; *Lavadeira, Borrelho*, Portug.; *Frailecillo, Andarios*, Span.; *Corriere grosso*, Ital.; *Sand-Lóa*, Icel.; *Halsband-Regenpfeifer*, German; *Bontbekkige Plevier*, Dutch; *Stor Strandpiber*, Dan.; *Större Strandryle*, Norweg.; *Större-Strandpipare*, Swed.; *Tyllikä*, Finn.; *Puvidak*, Lapp.; *Suek-Galstutschik*, Russ.

♂ *ad.* (Sussex). Fore crown, a narrow line at the base of upper mandible, lores, a patch through the eye, and ear-coverts, a broad band crossing the lower throat, narrower behind, deep black; forehead, a broad band passing above and behind the eye, throat, a collar passing round the neck above the black one, under parts of body, and wings and axillaries pure white; hind crown, nape, and upper parts dull hair-brown; quills blackish brown, some of the inner primaries with a white mark on the outer web, the secondaries largely white; larger wing-coverts tipped with white; middle tail-feathers brown, becoming black towards the tip; the rest broadly tipped with white, the outermost white; beak orange-yellow at base, black at the point; legs orange; iris brown. Culmen 0·65, wing 5·0, tail 2·45, tarsus 0·92 inch. The female is somewhat duller in colour than the male, and in the winter both sexes have the black colour slightly sullied with dull grey. Young birds lack the black frontal and pectoral bands, and some of the feathers on the upper parts have pale margins.

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Hab. Europe generally, north to Spitsbergen; Africa in winter south to Cape Colony; Asia east to Dauria, north to about 74° N. lat., and has occurred once or twice in India; Greenland, and eastern North America.

Frequents the sea coast, except that some resort to inland warrens or heaths during the nesting season, and may generally be seen on places left bare by the receding tide, or following the receding waves in search of food, which consists of small crustaceans, marine worms, aquatic insects, &c. Its cry, which is often uttered as the bird runs along, is clear, loud, and plaintive. Its flight is swift and even, and in winter it collects in small flocks and often consorts with other waders. It breeds in April, and again in June, two broods being reared in the season, and deposits 4 eggs on the ground amongst pebbles, or on sand, sometimes far from the sea, in which case the nest is lined with pebbles or small stones, sometimes constructing, and at others not making, a regular nest. The eggs are clay-yellow or ochreous buff, boldly marked with blackish grey and lilac underlying, and black surface spots and blotches, and measure about 1·27 by 1·0.

1030. Long-billed Ringed Plover.

ÆGIALITIS PLACIDA.

Ægialitis placida (Gray), Cat. Mamm. &c. Coll. Hodgs. 2nd ed. p. 70 (1863); David and Oust. Ois. Chine, p. 428; (Seebohm), B. Jap. Emp. p. 307; Sharpe, Cat. B. Br. Mus. xxiv. p. 262; Blanf. F. Brit. Ind. Birds, iv. p. 244; Tacz. F. O. Sib. O. p. 825; *Æg. hartingi*, Swinhoe, P.Z.S. 1870, p. 136, pl. xii.

Ikaru-chidori, *Ojun*, Jap.

♂ *ad.* (Japan). Differs from *Æ. hiaticola* in being larger, in having the bill black and larger, no black at the base of the upper mandible, only a dusky line from the base of the bill to the eye, no white inner secondaries, and less white on the outer tail-feathers, the outermost on each side with a broad subterminal black band; bill blackish brown, the base of the lower mandible orange-yellow; legs and feet pale ochreous, claws black; iris dark brown. Culmen 0·85, wing 5·7, tail 3·0, tarsus 1·35 inch.

Hab. South-eastern Siberia, Japan, Corea, Manchuria, and China; west to North-eastern India, where it occurs in winter.

In habits it does not differ from *Æ. hiaticola*, of which it is the eastern representative. It breeds in Japan late in May, nesting in stony places near rivers, and, according to Père David,

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also near the Tche-kiang and Kiang-si rivers in China. Its 4 eggs are pale stone-buff, finely dotted with blackish brown, and measure about 1·38 by 1·03.

1031. Semipalmated Plover.

ÆGIALITIS SEMIPALMATA.

Ægialitis semipalmata (Bp.), Obs. Wils. 1825, No. 219; (Audub.), B. Am. pl. 330; Nelson, Rep. Nat. Hist. Coll. in Alaska, p. 126; Sharpe, Cat. B. Br. Mus. xxiv. p. 250; Tacz. F. O. Sib. O. p. 829; Ridgway, p. 176.

♂ *ad.* (Massachusetts). Differs from *Æ. hiaticola* in having a distinct web between the inner and middle toes, and in having the black collar much narrower; bill black, the basal half orange; legs pale flesh-colour, the claws black; iris deep hazel. Culmen 0·6, wing 4·68, tail 2·5, tarsus 1·0 inch.

Hab. North America generally, wintering in the West Indies, Central America, and South America to Brazil, Peru, and the Galàpagos; Plover Bay and Koliuchin Bay on the coast of Eastern Asia.

In general habits it resembles *Æ. hiaticola*, and, like that species, nests on the ground, usually near the sea. Its eggs are pale dull buff or olive-buff, speckled or irregularly spotted, chiefly on or round the larger end, with dark brown or black, and measure 1·26 by 0·94.

1032. Little Ringed Plover.

ÆGIALITIS CURONICA.

Ægialitis curonica (Gmel.), Syst. Nat. i. p. 692 (1788); Dresser, vii. p. 491, pl. 524; Saunders, p. 541; Lilford, v. p. 33, pl. 11; Poynting, p. 31, pl. 7; ? *Æ. dubia* (Scop.), Del. Faun. et Flor. Insubr. ii. p. 93 (1786); David and Oust. Ois. Chine, p. 429; Sharpe, Cat. B. Br. Mus. xxiv. p. 263; Blanf. F. Brit. Ind. Birds, iv. p. 241; Ridgway, p. 177; *Æ. minor* (Wolf and Meyer), Vög. Deutschl. i. Heft 15, Taf. 5 (1805); (Naum.), vii. p. 225, Taf. 177; (Hewitson), ii. p. 299, pl. lxxvii. fig. 4; (Seebohm), B. Jap. Emp. p. 306; (Gould), B. of E. iv. pl. 297; id. B. of Gt. Brit. iv. pl. 42; Tacz. F. O. Sib. O. p. 830.

Petit Pluvier à collier, French; *Lavandeira*, Portug.; *Andarios pequeño, Corriolet*, Span.; *Corriere piccolo*, Ital.; *Fluss-Regenpfeifer*, German; *Kleine Plevier*, Dutch; *Lille Strandpiber*, Dan.; *Mindre Strandryle*, Norweg.; *Mindre Strandpipare*, Swed.; *Pieni-rantaraukuja*, Finn.; *Retschnoi-suek*, Russ.; *Zirrea*, Hindu.

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♂ *ad.* (Southern Europe). Differs from *Æ. hiaticola* in being much smaller, and in having the shaft of the first primary alone white, those of the rest of the quills brown; bill black with a small yellow patch at the base of the lower mandible; legs deep fleshy yellow; iris brown, the edge of the eyelid yellow. Culmen 0·62, wing 4·33, tail 2·3, tarsus 0·95 inch.

Hab. Europe generally, north to Southern Scandinavia; of very accidental occurrence in the south of England; Northern Africa in winter; Asia east to Japan; north to Dauria, south in summer in Mongolia, Manchuria, China, and Northern India, wintering in Southern India, the Moluccas, and as far south as New Guinea; of doubtful occurrence in N.W. America.

In general habits this bird resembles *Æ. hiaticola*, but affects the vicinity of inland water, such as the banks of rivers and the shores of inland lakes and ponds, especially where the ground is sandy or pebbly. Its note is slightly different and more shrill than that of its larger ally. It nests on sandy or pebbly ground, or, as I noticed in Spain, it frequently makes use of a dry patch of cow-dung; and it makes no nest. Its eggs, 4 in number, are usually deposited in May, and are stone-buff or stone-ochreous, rather finely spotted with purplish grey underlying shell-, and blackish brown surface-markings, measuring about 1·21 by 0·85.

1033. Killdeer Plover.

ÆGIALITIS VOCIFERA.

Ægialitis vocifera (Linn.), Syst. Nat. i. p. 253 (1766); (Audubon), B. of Am. pl. 215; Dresser, ix. p. 345, pl. 708; (Sharpe), Cat. B. Br. Mus. xxiv. p. 242; Ridgway, p. 174; Saunders, p. 545; Lilford, v. p. 37, pl. 13; Poynting, p. 37, pl. 9.

Tildeo, Mexican; *Pijije*, in Costa Rica.

♂ *ad.* (New Jersey). Forehead, stripe above and behind the eye, chin, throat, collar round the hind neck, and under parts generally, white; fore crown, stripe from the lores through the eye, collar round the lower neck, and a band across the breast black; upper parts warm brown; larger wing-coverts tipped with white; middle tail-feathers brown, the next orange at the base, then black tipped with white, the outer ones white tinged with rufous, and barred with black; upper tail-coverts rufous; bill black; legs dull greenish; iris brown; eyelids orange-red. Culmen 0·92, wing 6·35, tail 3·8, tarsus 1·45 inch. Sexes alike. The young have the feathers on the upper parts margined with pale rufous.

Hab. The whole of temperate North America, wintering in the West Indies, Central America, and the northern portions of

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South America; has occurred once in Hants and once on Tresco, one of the Scilly Islands.

Frequents not only the coast, but is also found far inland, and is a noisy, restless bird, though not particularly shy. It runs with great swiftness, and is equally active on the wing. Its food consists of insects, worms, and crustacea. It breeds from April to June, the nest being a mere depression in the ground, sparingly lined with a few grass-bents, and it is usually found nesting inland. The eggs, 4 in number, are pale clay buff or ochreous, blotched and spotted with black, with a few paler shell-markings, and occasionally with a few black streaks and lines; in size they average 1·55 by 1·12.

1034. Kittlitz's Plover.

ÆGIALITIS PECUARIA.

Ægialitis pecuaria (Temm.), Pl. Col. v. pl. 183 (1823); Harting, P.Z.S. 1874, p. 457, pl. lx. fig. 4 (egg); Dresser, ix. p. 341, pl. 709; Sharpe, Cat. B. Br. Mus. xxiv. p. 297; *Charadrius kittlitzi*, Reichenb. Syn. Av. ii. Tab. cv. fig. 1063 (1851); Layard, B. S. Af. p. 297; *Æ. varia*, Harting, Ibis, 1873, p. 262, pl. viii. (nec. Linn.).

Kanhiapraia, in Benguela; *Vikiviky*, *Kiboranto*, Malagasy.

♂ *ad.* (Nile). Forehead, a broad line passing through the eye to the nape, chin, and throat white; a narrow line on the fore crown, lores, and a band below the eye down the sides of the neck black; upper parts dusky brown; secondaries margined with white at the tips; middle tail-feathers dusky brown, the outermost pure white, the rest greyish white; lower throat and breast ochraceous rufous; rest of under parts, under wing-coverts, and axillaries white; bill and legs blackish; iris dark brown. Culmen 0·74, wing 4·0, tail 1·85, tarsus 1·2, bare part of tibia 0·65 inch. Female similar. Young birds lack the black on the forehead, and have the white on the head tinged with rusty red.

Hab. North-east Africa from the Nile Delta, and the whole of Africa, except the extreme north-western portions, down to the Cape and Madagascar.

In general habits it most nearly resembles the Little Ringed Plover. It breeds inland, though at no great distance from water, in South Africa in September, depositing its 4 eggs on the ground without making any regular nest. The eggs are olive-brown, irregularly and profusely marked with fine lines and spots of black, and measure about 1·21 by 0·82.

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EUDROMIAS, Brehm, 1831.

1035. DOTTEREL.

EUDROMIAS MORINELLUS.

Eudromias morinellus (Linn.), Syst. Nat. i. p. 254 (1766); (Naum.), vii. p. 163, Taf. 174; (Hewitson), ii. p. 293, pl. lxxvi. fig. 1; (Gould), B. of E. iv. pl. 295; id. B. of Gt. Brit. iv. pl. 43; Dresser, vii. p. 507, pl. 526; Sharpe, Cat. B. Br. Mus. xxiv. p. 234; Tacz. F. O. Sib. O. p. 819; Saunders, p. 535; Lilford, v. p. 26, pl. 8; Poynting, p. 15, pl. 4.

Pluvier guignard, French; *Medio chorlito*, Span.; *Piviere tortolino*, Ital.; *Mornell-Regenpfeifer*, German; *Morinel-Plevier*, Dutch; *Pomerantsfugl*, Dan. and Norweg.; *Fjällpipare*, Swed.; *Kerjärälintu*, Finn.; *Lahula*, Lapp.; *Glupöi-suek*, Russ.

♂ *ad.* (Sweden). Crown black, the forehead margined with white; lores and a broad streak over the eye meeting round the occiput white; upper parts greyish brown, feathers on the lower back and scapulars margined with fulvous yellow, the latter and inner secondaries faintly glossed with green; short secondaries margined with white; outer tail-feathers tipped with white; chin and upper throat white; ear-coverts and lower neck pale greyish brown; on the lower neck a white band, narrowly edged above with black; fore breast and flanks yellowish red; lower breast and upper abdomen black; lower abdomen and under tail-coverts yellowish white; under wing-coverts dull greyish; bill blackish; legs brownish green, the toes blackish grey; the heel orange; iris brown. Culmen 0·85, wing 6·0, tail 2·8, tarsus 1·5 inch. Female similar, but generally rather brighter coloured. In the winter both sexes have the crown and nape yellowish white, streaked with blackish, the white streak is narrower, the under parts dull isabelline, the breast streaked with brown, and the white band ill-defined. The young resemble the adult in winter dress, but have the upper parts margined with whitish.

Hab. Northern Europe to within the Arctic Circle and Novaya Zemlya; Great Britain; Central and Southern Europe and North Africa on migration and in winter; Northern Asia as far as the shores of the Arctic Ocean; south in winter to Turkestan and Persia.

Is essentially an inhabitant of the moorland and fell, and unless subjected to persecution is fearless and confiding. Its food consists of insects of various kinds and larvæ. It breeds in the northern portions of its range, and at considerable

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altitudes in the central portion, making no nest, but depositing late in May or early in June its 3 eggs, in a depression in the moss or herbage on the ground. The eggs are light stone-buff or dull buff sometimes with a green tinge, boldly blotched with black, some having a few dark purplish underlying shell-markings; in size they measure about 1·55 by 1·8.

PLUVIANUS, Vieill., 1816.

1036. Black-headed Plover.

PLUVIANUS ÆGYPTIUS.

Pluvianus ægyptius (Linn.), Syst. Nat. i. p. 254 (1766); Gould, B. of As. vii. pl. 62; Dresser, vii. p. 521, pl. 527; Sharpe, Cat. B. Br. Mus. xxiv. p. 32; *Pl. melanocephalus* (Gmel.), Syst. Nat. i. p. 692 (1788).

Ter-el-temsach, Arab.

♂ *ad.* (Egypt). Crown, sides of head, hind neck, back, and a band passing round and meeting on the breast purplish black; a band all round the crown, rump, and under parts white; lesser and median wing-coverts, scapulars, upper tail-coverts, and tail dark blue-grey, the tail tipped with white; all but the middle feathers with a subterminal black band; abdomen, throat, and under tail-coverts washed with creamy rufescent; bill blackish; legs blue-grey; iris dark brown. Culmen 0·9, wing 5·5, tail 2·65, tarsus 1·38. Sexes alike.

Hab. Africa north to the Mediterranean, south to Angola on the west coast, and Nubia, the Blue and White Nile on the east side; Algeria; of rare or doubtful occurrence north of the Mediterranean, except in Palestine, where it has been obtained in the Jordan valley; is said to have once occurred in Sweden.

The present species, which is said to be the Trochilos of Herodotus, frequents sand-banks and the banks of rivers, and is extremely tame and confiding. During the breeding season it is noisy, its cry resembling the syllables *ting-ting-ting-ting* and *tschi-tschi-tschi-tschi*. Its food consists of worms, insects, and larvæ. It does not make any regular nest, but deposits its 2 eggs in a depression in the sand. These are not unlike those of the Cream-coloured Courser, are without gloss, somewhat coarse in grain, brownish ochreous in ground-colour, closely marked with ashy grey, yellowish brown, and reddish brown blotches and dots, and measure about 1·25 by 0·95.

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HOPLOPTERUS, Bp., 1831.

1037. Spur-winged Plover.

HOPLOPTERUS SPINOSUS.

Hoplopterus spinosus (Linn.), Syst. Nat. i. p. 256 (1766); (Gould), B. of E. iv. pl. 293; Dresser, vii. p. 539, pl. 530; Sharpe, Cat. B. Br. Mus. xxiv. p. 157.

Zic-zac, Arab.; *Pavoncella armata*, Ital.

♂ *ad.* (Egypt). Crown, nape, chin, middle of throat and neck, and breast to lower abdomen glossy black: sides of head, neck, and of throat, hind neck, sides of rump, upper tail-coverts, base of tail, under surface of wings, crissum, and under tail-coverts white; back, scapulars and inner secondaries pale buffy brown; quills and tail, except at base, black, the latter narrowly tipped with white; and outer part of wing-coverts white; a sharp spur on the carpus; bill and legs black; iris lake-red. Culmen 1·2, wing 8·15, tail 4·2, tarsus 2·85 inch. Sexes alike.

Hab. Africa south to Kordofan and the Niger district; Palestine, Asia Minor, Southern Russia, Turkey, and has also occurred in Greece, Malta, and Italy; in Asia it is said to have occurred as far east as Persia, but this is doubtful.

In general habits it has much in common with *Vanellus vulgaris*, and like that bird is wary, restless, and noisy, and whenever an intruder is noticed it flies overhead uttering its warning cry, *zac, zac, zac*. It breeds in Egypt in March and April, its nest being a mere depression in the sand, and deposits 3 or 4 eggs, which are greyish olive or warm dark ochreous, closely spotted and blotched with olive-brown and blackish, the markings being usually more numerous at the larger end; in size they measure about 1·64 by 1·23.

CHETTUSIA, Bp., 1839.

1038. Sociable Plover.

CHETTUSIA GREGARIA.

Chettusia gregaria (Pall.), Reise Russ. Reichs. i. p. 456 (1771); Dresser, vii. p. 527, pl. 528; Sharpe, Cat. B. Br. Mus. xxiv. p. 174; Blanf. F. Brit. Ind. Birds, iv. p. 231; (Saunders), p. 553; Lilford, v. p. 24, pl. 7; Poynting, p. 59, pl. 15; *C. keptuschka* (Lepechin), Tageb. Reise Russ. Reichs. i. p. 229, footnote *b* (1774); (Gould), B. of E. iv. pl. 292.

Pavoncella gregaria, Ital.; *Keptuschka*, Russ.

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♂ *ad.* (S. Russia). Forehead, a broad streak above the eye passing round the nape, chin, upper throat, lower flanks, under wing surface, upper and under tail-coverts, thighs, secondaries, larger wing-coverts, sides of rump, and outer rectrices white; crown, lores, a narrow streak behind the eye, primaries, and outer primary coverts jet black; upper parts brownish ashy grey, the hind neck paler; tail white with a broad subterminal black band; neck and breast ashy grey, the latter darker; abdomen black but posteriorly rich chestnut-red; legs and beak black; iris brown. Culmen 1·5, wing 8·1, tail 3·6, tarsus 2·4, bare part of tibia 1·1 inch. Sexes alike, and the winter dress similar. Young birds have the crown brown marked with black, the white on the head tinged with buff, the upper parts darker and with pale margins, and the black and chestnut on the abdomen wanting.

Hab. South-eastern Europe; of rare occurrence in South Spain, Italy, once at Nice, once in Hungary, and once as far north as Lancashire; Africa in winter as far south as Kordofan and Senaar; Asia Minor and Central Asia, north and east to the Yenesei, south in winter to North-western India, Ceylon, and Arabia.

In habits it much resembles the Lapwing, and frequents the uplands, the steppes, grassy and sandy plains, and cultivated ground, is somewhat shy, and not noisy, only occasionally uttering its peculiar cry, *kretsch, kretsch, kretsch.* Its food consists of insects of various kinds, especially coleoptera and grasshoppers. It nests on hilly steppes, the nest being a hollow scratched in the ground, and lined with dry grass. The eggs, 4 in number, are deposited late in May, and resemble those of *V. vulgaris*, but as a rule the ground-colour is paler and the markings less bold.

1039. White-tailed Plover.

CHETTUSIA LEUCURA.

Chettusia leucura (Licht.), in Eversm. Reise nach Buchara, p. 137, (1823); Dresser, vii. p. 531, pl. 529; id. Ibis, 1902, p. 177, pl. vi. figs. 1, 2 (eggs); (Sharpe), Cat. B. Br. Mus. xxiv. p. 171; Blanf. F. Brit. Ind. Birds, iv. p. 233; *C. villotæi*, Audouin, Expl. somm. Descr. de l'Egypte, p. 388, pl. vi. fig. 2 (1825); Shelley, B. of Egypt, p. 233; *V. flavipes*, Lesson, Traité d'Orn. p. 542 (1831).

Chizi, in Cabul; *Ghiric*, in Afghanistan.

♂ *ad.* (Turkestan). Upper parts brown with a lilac tinge on the back and wings; upper tail-coverts, tail, most of the secondaries, flanks, under wing-coverts and upper throat white; primaries black; forehead and sides

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of head pale brown ; fore neck brown ; breast ashy grey ; abdomen rosy buff or salmon-colour ; bill black ; legs yellow ; iris reddish brown, the edge of the eyelids red. Culmen 1·25, wing 6·7, tail 2·75, tarsus 2·55 inch. Sexes alike. The young birds lack the pink tinge on the upper parts and the feathers have pale margins.

Hab. Southern Russia, Transcaspia; a rare straggler to Southern Europe, but has occurred in Southern France and Malta; North Africa in winter; in Asia it is found in Turkestan, Persia, Afghanistan, and Northern India in winter.

Is essentially a marsh bird, and is rarely found away from damp, marshy places. It is shy and wary, and is said never to consort with other waders in winter, but in the breeding season other species seek its society more especially on account of its wariness, for it immediately announces the advent of an intruder by its loud cry. It breeds in May, its nest being a heap of dry herbage, with a depression in the middle, and is placed in a damp locality, usually on the edge of a swamp, and the eggs, 2 to 4 in number, are small editions of those of *C. gregaria*, being clay-yellow in ground-colour, marked all over, but generally more profusely at the larger end, with black, the shell-markings being duller and paler, and the surface spots and blotches deeper black. In size they measure about 1·55 by 1·13.

LOBIVANELLUS, Strickl., 1841.

1040. Red-wattled Lapwing.

LOBIVANELLUS INDICUS.

Lobivanellus indicus (Bodd.), Tabl. Pl. Enl. p. 50 (1783) ; Dresser, ix. p. 353, pl. 723 ; (Sharpe), Cat. B. Br. Mus. xxiv. p. 149 ; (Blanf.), F. Brit. Ind. Birds, iv. p. 224 ; *L. goensis* (Gmel.), Syst. Nat. i. p. 706 (1788) ; Strickl. P.Z.S. 1841, p. 33.

Titai, Titi, Hindu. ; *Kiralla, Kibulla,* Cing.

♂ *ad.* (Transcaspia). Head, neck, and breast deep black ; a broad streak from behind the eye down the neck, under parts below the breast, and upper tail-coverts white ; fore back greyish white ; rest of upper parts brownish grey glossed with green, the median wing-coverts with reddish purple ; quills white at base, otherwise black, the inner secondaries nearly all white ; larger wing-coverts tipped with white ; tail black across the middle, otherwise white ; terminal half of bill black, the basal half, wattles in front of the eye, and eyelids lake-red ; legs and feet yellow ; iris crimson. Culmen 1·45, wing 8·22, tail 4·78, tarsus 3·2 inch. Sexes alike. The young bird has the crown brownish, the throat and sides of face white, and the feathers on the upper parts with sandy buff margins.

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Hab. Transcaspia, rare in Persia, Eastern Asia to Assam; Arabia, Mesopotamia, Afghanistan, India, and Ceylon.

Frequents the steppes near water, the borders of marshes, meadow-land, and river-banks, and though not shy is wary, especially when molested. It feeds on insects of various kinds, seldom on anything else. Its flight is Lapwing-like, but strong and tolerably rapid, and it is a noisy bird, and utters its loud cry both when on the wing and when on the ground. It breeds from March to August, usually in April, and deposits in a depression on the ground its 4 eggs, which are in character like those of a Lapwing, and vary in ground-colour from pale olive-green to ochreous and reddish buff, and are profusely marked with blackish brown or black; in size they average about 1·64 by 1·2.

1041. Grey-headed Lapwing.

LOBIVANELLUS CINEREUS.

Lobivanellus cinereus (Blyth), J. As. Soc. Beng. xi. p. 587 (1842); Seebohm, B. Jap. Emp. p. 311; (David and Oust.), Ois. Chine, p. 422; (Sharpe), Cat. B. Br. Mus. xxiv. p. 133; (Blanf.), F. Brit. Ind. Birds, iv. p. 228; Berez. and Bianchi, Ptitz. Gansu, p. 3; *L. inornatus*, Temm. and Schleg. Faun. Jap. Aves, p. 106, pl. 63.

Kire, Jap.

♂ *ad.* (Japan). Head, neck, and breast ashy grey, the hind neck and crown tinged with brown; upper parts brown with a bronzy tinge; primaries black; short secondaries and the larger secondary coverts, sides of rump, and upper tail-coverts white; tail white with a broad black subterminal band, bordered with brown; the outermost feathers white; upper breast crossed by a narrow black band; rest of under parts and under wing-coverts white; terminal half of bill black, the basal half, lappets, and edge of eyelids, legs and feet yellow; claws black; iris red. Culmen 1·5, wing 9·3, tail 4·3, tarsus 2·92 inch. Sexes alike. In the winter the pectoral band is obscured, and the head and neck are tinged with brown. The young birds have the head and neck brown, the chin white, and lack the pectoral band.

Hab. Japan, Corea, North China and Mongolia, wintering in Burma and Eastern India, and has occurred as far south as the Andamans.

In habits it resembles the Lapwing, and like that bird is shy and wary, and when disturbed flies high above the intruder, uttering loud cries. It frequents damp, marshy localities, and feeds on insects. It breeds in April, depositing its 4 eggs in the grass, on the ridges which intersect the paddy fields. The eggs resemble those of *V. vulgaris*, but are not so pointed.

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VANELLUS, Briss., 1760.

1042. The Lapwing.

VANELLUS VULGARIS.

Vanellus vulgaris, Bechst. Orn. Taschenb. ii. p. 313 (1803); Dresser, vii. p. 545, pl. 531; Blanf. F. Brit. Ind. Birds, iv. p. 230; Saunders, p. 555; Lilford, v. p. 43, pl. 16; Poynting, p. 63, pl. 16; ? *V. capella*, Schaeff. Mus. Orn. p. 49 (1789); *Tringa vanellus*, Linn. Syst. Nat. i. p. 248 (1766); (Naum.), vii. p. 269, Taf. 179; (Sharpe), Cat. B. Br. Mus. xxiv. p. 166; (Ridgway), p. 172; *V. cristatus*, Wolf and Meyer, Hist. Nat. Ois. de l'Allem. p. 110 (1805); Gould, B. of E. iv. p. 291; id. B. of Gt. Brit. iv. pl. 33; Hewitson, ii. p. 301, pl. lxviii.; Seebohm, B. Jap. Emp. p. 312; Tacz. F. O. Sib. O. p. 838.

Vanneau dixhuit, French; *Abibe*, *Abecuinha*, Portug.; *Ave fria*, Span.; *Pavoncella comune*, Ital.; *Kiebitz*, German; *Kievit*, Dutch; *Vibe*, Dan. and Norweg.; *Tofsvipa*, Swed.; *Hyyppä*, Finn.; *Pigolitza*, *Chibis*, Russ.; *Tagere*, Jap.

♂ *ad.* (England). Forehead, crown, fore throat and upper breast velvety black; nape, sides of neck and face and under parts white; on the hind crown a long curved crest; upper parts metallic green tinged with purple; quills purplish black; wing-coverts violet-purple; upper and under tail-coverts rust-red; tail white on the basal, and black on the terminal half, the outer feathers nearly all white; bill black; legs brownish red; iris dark brown. Culmen 1·15, wing 8·8, tail 1·45, tarsus 1·8 inch. Female duller with a shorter crest. In winter both sexes have the throat white, the breast-feathers tipped with white and those on the upper parts slightly buff-tipped. The young bird resembles the above winter dress, but has the sides of head and nape washed with buff, the pectoral band small, and the feathers on the upper parts edged with buff.

Hab. The whole of Europe, north to the Arctic Circle; wintering in Southern Europe and North Africa; Canaries; Madeira, rare in the Azores; Asia Minor and Asia east to Japan, north to Dauria; South China and N.W. India in winter.

Inhabits the lowlands, plains, and moors except when breeding, in preference damp localities, and is shy and wary; when disturbed, especially when breeding, it flies overhead, swooping and casting itself about uttering its wailing cry, *pee-wit*, *pee-wit*. It feeds on worms and insects of various kinds. It begins to breed late in March or early in April, its nest being a mere depression in the soil, scantily lined with grass. The eggs, 4 in

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number, are brownish olive with a few purplish brown shell-blotches, and with many blackish brown surface spots and blotches, and measure about 1·73 by 1·35.

STREPSILAS, Illiger, 1811.

1043. TURNSTONE.

STREPSILAS INTERPRES.

Strepsilas interpres (Linn.), Syst. Nat. i. p. 248 (1766); Naum. vii. pl. 303, Taf. 180; Hewitson, ii. p. 303, pl. lxxix.; Dresser, vii. p. 555, pl. 532; Gould, B. of Austral. vii. pl. 39; id. B. of Gt. Brit. iv. pl. 60; (Sharpe), Cat. B. Br. Mus. xxiv. p. 92; Tacz. F. O. Sib. O. p. 845; Blanf. F. Brit. Ind. Birds, iv. p. 223; Seebohm, B. Jap. Emp. p. 331; Saunders, p. 557; Lilford, v. p. 46, pl. 17; Poynting, p. 69, pl. 17; (Ridgway), p. 180; *S. collaris*, (Meyer and Wolf), Taschenb. ii. p. 383, footnote (1810); Gould, B. of E. iv. pl. 318.

Tournepierre, French; *Maçarico*, Portug.; *Revuelve-piedras*, Span.; *Voltapietre*, Ital.; *Steinwältzer*, German; *Steenlooper*, Dutch; *Tildra*, Icel.; *Stenvender*, Dan.; *Stenvælter*, Norweg.; *Roskarl*, Swed.; *Goategollás*, Lapp.; *Luotolainen*, Finn.; *Kamnescharka*, Russ.; *Kio-jo-shigi*, Jap.

♂ *ad.* (Norway). Head, throat, rump, tail-coverts, and under parts below the breast white; crown and nape with black stripes; a narrow band over the forehead, a stripe from the mandible to the breast, breast, and upper flanks black; upper parts varied black, chestnut, and white; tail white with a subterminal black band; bill blackish; legs orange-red; iris dark brown. Culmen 1·0, wing 6·0, tail 2·5, tarsus 1·0 inch. Female rather duller, the head and nape darker. In winter both sexes have less chestnut in the plumage and the black feathers have white tips. The young bird has the head and nape dull brown marked with black; upper parts blackish brown marked with buff and brown, the breast dull dark brown.

Hab. Europe, north to Greenland, Iceland, and Novaya Zemlya; Africa to the Cape, Madagascar, and the Mascarene Isles; the Canaries, Madeira, and Azores; Asia, north to the Arctic Ocean and Kamchatka, east to Japan, south through China, India, and the Philippines to Australia and New Zealand; North and South America, the West Indies, and the Pacific Islands; is perhaps the most cosmopolitan species of bird.

Frequents the sea shore, especially in rocky localities, and is comparatively seldom met with on the mud-flats. It feeds on marine worms, insects and their larvæ, small crustaceans, &c.

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It runs with ease, and its flight is strong and swift. Its note is a clear, loud whistle, *kee, kee, kee,* uttered first slow, then quicker. It breeds early in June on or near the sea coast, the nest being usually under a large stone or a bush, sparingly lined with grass-bents. The eggs, 4 in number, are dull greenish grey, with dull purplish underlying shell-markings and dark brown surface blotches and spots, and measure about 1·62 by 1·21.

HÆMATOPUS, Linn., 1766.

1044. Oyster-Catcher.

HÆMATOPUS OSTRALEGUS.

Hæmatopus ostralegus, Linn. Syst. Nat. i. p. 257 (1766); Naum. vii. p. 325, Taf. 181; Hewitson, ii. p. 305, pl. lxxx; Gould, B. of E. iv. pl. 300; id. B. of Gt. Brit. pl. 45; Dresser, vii. p. 567, pl. 533; Sharpe, Cat. B. Br. Mus. xxiv. p. 107; Blanf. F. Brit. Ind. Birds, iv. p. 245; Saunders, p. 559; Lilford, v. p. 47, pl. 18; Poynting, p. 75, pl. 18; *H. osculans*, Swinhoe, P.Z.S. 1871, p. 405; Sharpe, op. cit. p. 111; Tacz. F. O. Sib. O. p. 843.

Huîtrier pie, French; *Ostraceiro*, Portug.; *Ostrero*, Span.; *Beccaccia di mare*, Ital.; *Austernfischer*, German; *Scholekster*, Dutch; *Tjaldr*, Icel.; *Strandskade*, Dan.; *Kjeld*, Norweg.; *Strandskata*, Swed.; *Cagan*, Lapp.; *Rantaharakka, Piiski*, Finn.; *Morskaya-soroka, Sorotschai*, Russ.; *Darya-gajpaon*, Hindu.

♂ *ad.* (Sweden). Head, neck, and back deep black; a small spot under the eye, rump, upper tail-coverts, base of tail, under parts, and under surface of wings white; quills black, the inner webs margined with white; larger wing-coverts and some of the inner secondaries white; tail black on the terminal portion; bill orange-red, becoming yellow at the tip; legs purplish flesh-red; iris reddish; edge of eyelid orange-red. Culmen 2·85, wing 9·6, tail 4·4, tarsus 1·9 inch. Sexes alike. In winter the white spot under the eye is larger, and a white patch is on the throat.

Hab. The whole of Europe, north to the Arctic Circle; Iceland; Greenland; Africa, in winter south to Mozambique and Senegambia; Asia, east to Japan, north to Kamchatka, south in winter to South China, India, and Ceylon.

Frequents the sea shores, especially rocky parts, and is comparatively seldom seen inland. Extremely shy and wary, it starts off at the slightest sign of danger, uttering its clear, loud whistle. It feeds on worms, limpets and other shell-fish, young crabs, &c., and notwithstanding its name I know of no evidence of its ever taking oysters. It breeds from the middle of April to the latter part of May, and deposits its 3, occasionally 4, eggs

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amongst the gravel, or stones, slightly above high-water mark. These are stone-buff with purplish grey underlying, and blackish or blackish brown surface spots and blotches, and measure about 2·24 by 1·52.

Dr. Sharpe grants specific rank to the East Asiatic bird (*H. osculans*), but I cannot consider it even worthy of subspecific rank, as it only has, as a rule, less white on the outer primaries, and a somewhat longer bill, but even these slight differences do not appear to be constant.

1045. African Black Oyster-Catcher.

HÆMATOPUS MOQUINI.

Hæmatopus moquini, Bp. Comp. rend. xliii. p. 1020 (1856) ; Dresser, ix. p. 359, pl. 711 ; Sharpe, Cat. B. Br. Mus. xxiv. p. 119 ; *H. capensis* (Licht.), Verz. Doubl. p. 73 (1823 nom. nud.) ; Meade Waldo, Ibis, 1889, p. 13.

Corveno, in Graciosa; *Grajo do Mar*, on Lanzarote; *Cuervo marino*, on Fuerteventura.

♂ *ad.* (Fuerteventura). Entire plumage dark sooty black ; bill and bare part round the eye coral-red ; legs deep crimson ; iris bright red. Culmen 3·45, wing 9·8, tail 4·3, tarsus 2·0 inch. Sexes alike.

Hab. South Africa, north to the Red Sea and Gaboon; Canaries; Madeira.

In habits it does not appear to differ from *H. ostralegus*. It breeds in the Canaries and in South Africa, depositing its eggs, usually 2, but sometimes 4, in number, on the sand or shingle just above high-water mark. The eggs are greyish cream-coloured, somewhat sparsely covered with coarse, irregular wavy, black and dark brown broken lines, and measure about 2·6 by 1·9.

According to Pallas (Zoogr. Ross. As. ii. p. 131), the West American Oyster-catcher, *Hæmatopus niger*, occurs on the Kurile Islands, but so far as I can ascertain no specimen has been obtained there.

RECURVIROSTRA, Linn., 1766.

1046. Avocet.

RECURVIROSTRA AVOCETTA.

Recurvirostra avocetta, Linn. Syst. Nat. i. p. 256 (1766) ; Naum. viii. p. 213, Taf. 204 ; Hewitson, ii. p. 339, pl. xcii. fig. 2 ; Gould, B. of E. iv. pl. 308 ; id. B. of Gt. Brit. iv. pl. 53 ; Dresser, vii. p. 577,

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pl. 534; David and Oust. Ois. Chine, p. 461 ; Sharpe, Cat. B. Br. Mus. xxiv. p. 326 ; Blanf. F. Brit. Ind. Birds, iv. p. 248 ; Tacz. F. O. Sib. O. p. 853 ; Saunders, p. 561 ; Lilford, v. p. 49, pl. 19 ; Poynting, p. 79, pl. 19.

Avocette à nuque noire, French ; *Alfayate, Frade*, Portug. ; *Boceta*, Span. ; *Avocetta*, Ital. ; *Avosett-säbler*, German ; *Kluit*, Dutch ; *Klyde*, Dan. and Norweg. ; *Skärfläcka*, Swed. ; *Schilokliovka*, Russ. ; *Bou-mehet*, Moor. ; *Halebi*, Arab. ; *Kusya-chaha*, Hindu.

♂ *ad.* (Spain). Crown, sides of head to below the eye, nape, hind neck, primaries, and wing-coverts, except those at the base of the wing, black ; rest of plumage white ; beak slender, curved upwards, black ; legs light blue ; iris reddish brown. Culmen 4·0, wing 8·5, tail 3·45, tarsus 3·65 inch. Sexes alike. In the winter the black on the upper parts is sullied with grey, and the middle tail-feathers are tinged with brownish grey.

Hab. Europe, north to Southern Sweden ; formerly an inhabitant of, but now only an accidental visitant to Britain ; Africa in winter as far south as the Cape Colony ; Asia, east to Mongolia and China, north to Dauria, south to India and Ceylon.

Frequents damp marshy localities, and is exceedingly shy and wary. Its note is a clear, loud *kluit*, uttered several times in succession, and its food consists of small aquatic insects which it obtains from the surface by swaying sideways with the bill, the action reminding one forcibly of a mower cutting grass. It wades far in the water, and will when necessary swim, which it does with ease. It breeds in May, the nest being a depression in the soil, or the dry mud near the water, scantily lined with a few grass-bents, and the eggs, 3 to 4 in number, are clay-buff or stone-ochre with a faint greyish tinge, with blackish grey underlying shell-markings and bold black surface spots and blotches, and measure about 2·1 by 1·5.

HIMANTOPUS, Briss., 1760.

1047. Black-winged Stilt.

HIMANTOPUS CANDIDUS.

Himantopus candidus, Bonnat. Tabl. Encycl. Méth. i. p. 24 (1791) ; Gould, B. of Gt. Brit. iv. pl. 34 ; Dresser, vii. p. 587, pls. 535, 536 ; David and Oust. Ois. Chine, p. 462 ; Blanf. F. Brit. Ind. Birds, iv. p. 247 ; Saunders, p. 563 ; Poynting, p. 85, pl. 20 ; *Charadrius himantopus*, Linn. Syst. Nat. i. p. 255 ; (Naum.), viii. p. 191, Taf. 203 ; (Sharpe), Cat. B. Br. Mus. xxiv. p. 310 ; *H. melanopterus*, Meyer, Ann. Wetter. Gesellsch. iii. p. 177 (1814) ; Gould, B. of E. iv. pl. 289 ; Hewitson, ii. p. 342, pl. xcii. fig. 1 ; Lilford, v. p. 51, pl. 20.

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Echasse blanche, French; *Fuzellos*, Portug.; *Cigüeñuela*, Span.; *Cavalier d'Italia*, Ital.; *Grauschwänziger Stelzenläufer*, German; *Steltkluit*, Dutch; *Rödbenet-Styltelöber*, Dan.; *Chodulotschnik*, *Soldatka*, Russ.; *Bou-ksaiba*, Moor.; *Bidji*, *Suqdah*, Arab.; *Gajpaun*, *Tinghur*, Hindu.

♂ *ad.* (Sarepta). Hind crown, nape, and hind neck black intermixed with white; upper portion of back and wings deep black glossed with bottle-green or purplish green; outer tail-feathers white, the rest grey; rest of plumage pure white; bill blackish; legs rose-pink; iris deep carmine-red. Culmen 2·75, wing 9·5, tail 3·2, tarsus 4·6 inch. The female has the hind crown and nape with the hind neck dull blackish grey, and the back, scapulars, and inner secondaries dull blackish brown; otherwise like the male. The male sometimes has the whole head and neck white. Young birds have the hind neck grey and the feathers on the upper parts with brownish white margins.

Hab. Southern Europe, visiting Britain, Holland, Denmark, France, Switzerland, and Hungary; the whole of Africa; Central and Southern Asia, east to China, south to India and Ceylon.

In habits it is as a rule tame and confiding. It steps daintily about or wades in the shallow water in search of food, which consists of gnats, aquatic insects of various kinds picked off the surface, and larvæ. Its note is a clear, loud whistle, but it is not a noisy bird. It breeds in May, often in large communities, placing its nest on the dense floating herbage, in which case it is strongly built of rushes and reed-bents, or else on the dry mud, in which case the nest is a very slight structure. The eggs, 4 in number, are paler or darker warm stone-buff, boldly spotted and blotched with black or blackish brown, and measure about 1·71 by 1·23.

PHALAROPUS, Briss., 1760.

1048. Red-necked Phalarope.

PHALAROPUS HYPERBOREUS.

Phalaropus hyperboreus (Linn.), Syst. Nat. i. p. 249 (1766); Hewitson, ii. p. 370, pl. civ. fig. 1; Gould, B. of E. iv. p. 336; id. B. of Gt. Brit. iv. pl. 83; Dresser, vii. p. 597, pls. 537, 539, fig. 2; (David and Oust.), Ois. Chine, p. 482; (Audubon), B. Am. v. p. 295, pl. 340; Sharpe, Cat. B. Br. Mus. xxiv. p. 698; Seebohm, B. Jap. Emp. p. 318; Bianf. F. Brit. Ind. Birds, iv. p. 281; Saunders, p. 567; Lilford, v. p. 56, pl. 22; Poynting, p. 95, pl. 22; *P. lobatus* (Linn.), Syst. Nat. i. p. 149 (1766); Ridgway, p. 145; *P. angustirostris*, Naum. viii p. 240, Taf. 205; *P. cinereus*, Meyer, Taschenb. ii. p. 417, (1810); Tacz. F. O. Sib. O. p. 848.

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Phalarope cendré, French; *Schmalschnäbliger-Wassertreter*, German; *Sundhani, Odinshani*, Icel.; *Odinshane*, Dan.; *Smalnœbet-Svömsneppe*, Norweg.; *Smalnäbbad-Simsnäppa*, Swed.; *Kaitan-okka-Vesipädiskymen*, Finn.; *Pavgui*, Lapp.; *Plavuntschik*, Russ.

♂ *ad.* (Lapland). Crown, nape, and upper parts sooty blackish, the back and scapulars margined with ochreous; wings blackish, the coverts tipped with white; tail blackish brown; sides of face, a band across the breast, and flanks blackish, the first slightly marked with ochreous; a bright fox-red patch on each side of the neck; rest of under parts white; bill blackish, the base of the lower mandible yellowish; legs greyish plumbeous; toes lobed, the webs paler; iris dark brown. Culmen 1·05, wing 4·0, tail 1·95, tarsus 0·8 inch. The female is larger and brighter coloured. In winter the fore crown, lores, sides of head, and under parts are white; hind crown, nape, and hind neck dusky brown; mantle blackish brown with buffy white margins.

Hab. Northern Europe, up to the North Cape; Iceland; Southern Europe and North Africa (rarely) in winter; Asia, north to Kamchatka, east to Japan, south in winter to China, India, and the Malay Archipelago; North America from the Arctic regions, south in winter to Guatemala.

Frequents the sea coasts in winter and inland pools and lochs during the breeding season, and is extremely tame and confiding. It swims with ease, and even dives half under the surface of the water in search of its food, which consists of worms, small shrimps, crustacea, and marine insects. Its flight closely resembles that of a Sandpiper, and its note is a clear *tirrr*. It breeds from early in June to July, its cup-shaped nest of grass and aquatic plants being placed on the wrack on the margins of, or more often in small islets in, lakes. The eggs, 4 in number, are clay-yellow, ochreous, or brown, spotted or blotched with dark umber-brown or blackish, and measure about 1·17 by 0·85.

1049. Grey Phalarope.

PHALAROPUS FULICARIUS.

Phalaropus fulicarius (Linn.), Syst. Nat. i. p. 249 (1766); Aud. B. of Am. pl. 255; Gould, B. of Gt. Brit. iv. pls. 81, 82; Newton, P.Z.S. 1867, pl. xv. fig. 1 (egg); David and Oust. Ois. Chine, p. 481; Seebohm, B. Jap. Emp. p. 318; Dresser, vii. p. 605, pls. 538, 539, fig. 1; (Sharpe), Cat. B. Br. Mus. xxiv. p. 693; (Tacz.), F. O. Sib. O. p. 851; Blanf. F. Brit. Ind. Birds, iv. p. 282; (Ridgway), p. 144; Saunders, p. 565; Lilford, v. p. 53, pl. 21; Poynting, p. 91, pl. 21; *P. platyrhynchus*, Temm. Man. d'Orn. p. 459 (1815); Naum. viii. p. 255, Taf. 206; Gould, B. of E. iv. pl. 337; *P. lobatus* (nec. Linn.); Hewitson, ii. p. 368, pl. civ. fig. 2.

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Phalarope gris, French; *Falaropo rosso*, Ital.; *Plattschnäbliger Wassertreter*, German; *Rosse Frangepoot*, Dutch; *Thorshani*, Icel.; *Brednœbet-Vandtræder*, Dan.; *Brednœbet-Svömsneppe*, Norweg.; *Brednäbbad-Simsnäppa*, Swed.; *Leveänokka-Vesipääskynen*, Finn.; *Plosconosey-plavuntchik*, Russ.

♀ *ad.* (Labrador). Crown, nape, chin, and base of bill black; upper parts black margined with rusty yellow; short secondaries margined, and wing-coverts tipped, with white; upper tail-coverts rusty red marked with blackish brown; middle tail-feathers blackish, the rest slate-grey; a white patch on the sides of the head; neck and under parts rich dark rusty red; bill flat, yellowish, tipped with black; legs dull olivaceous; iris dark brown. Culmen 1·1, wing 5·35, tail 2·8, tarsus 0·85 inch. The male is smaller, duller in colour, and the white patch on the face is almost obsolete. In winter the upper parts are dark French-grey, the head, neck, and under parts white, with a broad blackish streak through and behind the eye. The young bird has the crown, hind neck, back, and scapulars blackish with ochreous margins; wing-coverts, rump, and upper tail-coverts plumbeous bordered with buff and ochreous; rest of head, neck, and under parts white, the throat and breast tinged with brownish buff.

Hab. Breeds in Greenland, Iceland, Spitsbergen, not in Norway, and the extreme northern portions of the Old and New Worlds, ranging south in winter to the Mediterranean in Europe, to China, has once occurred in India, and is recorded from New Zealand; on the American continent it occurs as far south as Chili in winter.

In habits and nidification it closely resembles *P. hyperboreus*, but its note is said to be more Finch-like, and it usually nests on the small islands off the coast, and not on the main land. Its eggs, 4 in number, also resemble those of *P. hyperboreus*, but are as a rule somewhat stouter and larger, and some have a paler ground-colour.

SCOLOPAX, Linn., 1766.

1050. Woodcock.

SCOLOPAX RUSTICULA.

Scolopax rusticula (Linn.), Syst. Nat. i. p. 243 (1766); Naum. viii. p. 361, Taf. 211; Hewitson, ii. p. 348, pl. xcvi.; Gould, B. of E. iv. pl. 319; id. B. of Gt. Brit. iv. pl. 77; Dresser, vii. p. 615, pl. 540; Seebohm, B. Jap. Emp. p. 347; David and Oust. Ois. Chine, p. 475; Sharpe, Cat. B. Br. Mus. xxiv. p. 671; Tacz. F. O. Sib. O. p. 949; Blanf. F. Brit. Ind. Birds, iv. p. 283; Ridgway, p. 149; Saunders, p. 569; Lilford, v. p. 58, pls. 23, 24; Poynting, p. 103, pl. 23.

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Bécasse ordinaire, French; *Gallinhola*, Portug.; *Becada*, *Chocha*, Span.; *Beccaccia*, Ital.; *Waldschnepfe*, German; *Woudsnep*, Dutch; *Skovsneppe*, Dan.; *Rugde*, Norweg.; *Morkulla*, Swed.; *Lehtokurppa*, Finn.; *Waldschnep*, *Shabashka*, Russ.; *Simtitar*, Hindu.; *Himar el hedjel*, Moor.; *Hodo-shigi*, Jap.

♂ *ad.* (Smyrna). Forehead dull light grey marked with dark brown; hind head black crossed by three irregular yellowish buff and rusty brown bands; upper parts reddish brown, barred and marked with black and warm ochreous; tail black and marked with rusty red and tipped with buffy grey; chin white; sides of head greyish, marked with brown and rufous; under parts dull rufous white with narrow undulating transverse dusky brown bars; bill dull flesh-colour becoming dark brown at the end; legs greyish flesh-brown; iris blackish brown. Culmen 3·2, wing 7·7, tail 3·35, tarsus 1·4 inch. Sexes alike. The young bird has the outer webs of the primaries with distinct fulvous notches, the upper parts rather darker, and the under parts paler.

Hab. Northern Europe and Asia, north to about 66–67°, breeding however as far south as the Azores, Canaries, Madeira, and the Himalayas; wintering in South Europe, rarely in North Africa, in Japan, China, and India; accidental in Eastern North America.

Is chiefly nocturnal in its habits, remaining during the day-time till evening in dense covers, especially where the soil is damp, and feeding at night, its food consisting of worms and insects of various kinds. In the breeding season the male flies along certain regular routes, uttering its peculiar call *orrt*, *orrt*, *pisp*. Its nest is a hollow in the ground thickly lined with dry leaves, usually in the borders of a grove or a sparse thicket, and the eggs, 4 in number, are deposited late in April or early in May. These are creamy buff or dark stone-buff with pale dull purplish shell-markings and dark brown surface spots, these last being more numerous at the larger end. In size they measure about 1·75 by 1·32. The young are conveyed from the nest to their feeding grounds by being carried between the parents' thighs.

ROSTRATULA, Vieill., 1816.

1051. Painted Snipe.

ROSTRATULA CAPENSIS.

Rostratula capensis (Linn.), Syst. Nat. i. p. 246 (1766); (Layard), B. of S. Afr. p. 334; (David and Oust.), Ois. Chine, p. 480; (Milne-Edw. and Grandid.), Hist. Nat. Madag. pl. 261 and pl. 306, fig. 9 (eggs); (Seebohm), B. Jap. Emp. p. 340; Sharpe, Cat. B. Br. Mus. xxiv. p. 683; Blanf. F. Brit. Ind. Birds, iv. pp. 293; *R. bengalensis*, (Linn.), tom. cit. i. p. 263.

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Ohari, Nepal.; *Tibud*, *Panlawa*, Mahr.; *Tama-shigi*, Jap.

♂ *ad.* (India). Crown and nape olivaceous brown; a broad median stripe, a narrow ring round, and a stripe behind the eye buff; hind neck and fore back ashy brown narrowly dark barred; upper parts black varied with rufous grey and yellow and washed with olivaceous; a broad buff stripe on each side of the back; wing-coverts and quills with ovate yellowish and rusty spots; upper tail-coverts and tail blue-grey with yellowish ovate spots and bars; chin nearly white; throat and upper breast ashy brown with dull white stripes, bordered below with blackish; sides of breast olive-brown and black; rest of under parts white; bill, legs, and iris olive-brown. Culmen 2·1, wing 5·0, tail 1·7, tarsus 1·7 inch. Female larger, much richer coloured; sides of head rufous becoming chestnut-red on the throat down to the black band across the breast; mantle dark lead-grey with narrow black bars; a tuft of white lanceolate feathers under the scapulars in all ages. Young birds resemble the male adult.

Hab. Africa south of the Sahara, but ranging in the east to the Nile Delta; Madagascar; Asia Minor (?); Afghanistan, Kashmir, and the Indian Peninsulas, east to Japan and China, south in winter to Java, Sumatra, Borneo, and the Philippines.

Frequents moist or grassy localities often where there are bushes, is Rail-like in its general habits and flight, and hard to flush, affording poor sport. It feeds on insects and mollusca, and also to some extent on grain and grass seeds. The note of the female is a guttural croak, that of the male shriller. It is said to breed twice in the year, and in India its nest has been found at all seasons. The nest is a mere hollow in the ground, often with a pad of grass or rushes, and the eggs, 4 in number, which are very small for the size of the bird, only measuring about 1·40 by 0·99, are clear yellowish buff, boldly blotched with rich brownish black, here and there becoming rich raw sienna-brown.

GALLINAGO, Leach, 1816.

1052. Double Snipe.

GALLINAGO MAJOR.

Gallinago major (Gmel.), Syst. Nat. i. p. 661 (1788); (Naum.), viii. p. 291, Taf. 208; (Hewitson), ii. p. 351, pl. xcvii.; (Gould), B. of E iv. pl. 320; id. B. of Gt. Brit. iv. pl. 78; Dresser, vii. p. 631 pl. 541; Sharpe, Cat. B. Br. Mus. xxiv. p. 626; Saunders, p. 571 Lilford, v. p. 59, pl. 25; Poynting, p. 109, pl. 24.

Grande Bécassine, French; *Narseja grande*, Portug.; *Agachadiza-real*, Span.; *Croccolone*, Ital.; *Grosse Sumpfschnepfe*,

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Doppelschnepfe, German; *Poelsnip*, Dutch; *Tredækker*, Dan.; *Dobbelt-Bekkasin*, Norweg.; *Dubbel Beckasin*, Swed.; *Heinäkurppa*, Finn.; *Dupel*, *Leshenok*, Russ.

♂ *ad.* (Denmark). Forehead and sides of head buffy white dotted with blackish brown; centre of crown and nape black with a central pale buff streak; upper parts blackish brown variegated with creamy buff and rufous; a broad stripe on each side of the back creamy buff; quills blackish brown; wing-coverts tipped with dirty white; middle tail-feathers blackish at base, then rufous variegated with black, the rest broadly tipped with white, the three outermost half white; chin, neck, and throat buff, the two last marked with blackish brown; under parts white closely barred with blackish brown, the breast and flanks tinged with buff; bill dull flesh-coloured at the base darkening to black towards the end; legs dull flesh-colour, the joints plumbeous; iris dark brown. Culmen 2·4, wing 5·5, tail 2·5, tarsus 1·4 inch. Sexes alike. The young have the upper parts more rufous, the wings less marked with white, and the under parts more obscurely marked.

Hab. Northern Europe up to about 69° N. lat. in Norway, 65° in Sweden and Russia, but not above 62° in Finland; wintering in Southern Europe, and Africa as far south as the Cape Colony; Asia east to the Yenesei valley and Persia; a frequent visitor to Great Britain.

Like the Woodcock the present species is chiefly nocturnal in its habits, and frequents swampy damp localities. It is always seen singly, never in wisps like the Common Snipe, and its flight is heavier and more direct. It may always be distinguished from that species by its shorter bill and legs, and by the large amount of white on the tail. In the spring they frequent regular "drumming" places, like some of the Grouse, and fight for the possession of the females. Its note *bipbip*, *bipbiperere*, *biperere*, may then be heard at some distance if the night is still. Its food consists of worms, small slugs, insects, and larvæ, and it feeds chiefly at night. Its nest is a mere depression in the ground, sparingly lined with a few grass straws, and the eggs are usually deposited in June. These are pale olive-grey or olivaceous stone-buff with purplish grey underlying shell-markings, and bold blackish brown surface spots and blotches, and measure about 1·75 by 1·24.

1053. Single Snipe.

GALLINAGO CÆLESTIS.

Gallinago cælestis (Frenzel), Beschr. Vög. und Eier Wittenb. p. 58, (1801); Dresser, vii. p. 641, pls. 542, 543; Saunders, p. 573;

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Poynting, p. 115, pl. 25; Blanf. F. Brit. Ind. Birds, iv. p. 286; *Scolopax gallinago*, Linn. Syst. Nat. i. p. 244; Naum. viii. p. 310, Taf. 209; Hewitson, ii. p. 353, pl. xcviii.; Gould, B. of E. iv. pl. 321, fig. 2; Seebohm, B. Jap. Emp. p. 346; (Sharpe), Cat. B. Br. Mus. xxiv. p. 633; Lilford, v. p. 63, pl. 26; (Ridgway), p. 150; *G. scolopacina*, Bp. Comp. List. p. 52 (1838); Tacz. F. O. Sib. O. p. 960; Gould, B. of Gt. Brit. iv. pl. 79; David and Oust. Ois. Chine, p. 478; *G. sabinii* (Vigors), Trans. Linn. Soc. xiv. p. 557 (1825); Gould, B. of E. iv. pl. 321, fig. 1; Lilford, v. p. 64, pl. 27; Poynting, p. 115, pl. 25.

Chèvre volante, French; *Narseja ordinaria*, Portug.; *Agachadiza*, Span.; *Beccacino reale*, Ital.; *Moorschnepfe*, German; *Watersnip*, Dutch; *Myrispita*, Icel.; *Dobbelt Bekkasin*, Dan.; *Enkelt Bekkasin*, Norweg.; *Enkelbeckasin*, Swed.; *Mäkastak*, Lapp.; *Taivan-vuohi*, *Taivan-jaari*, Finn.; *Bekass*, *Barachék*, Russ.; *Chosch*, Arab.; *Boumonkar*, Moor.; *Chaha*, *Bharak*, Hindu.; *Ji-shigi*, Jap.

♂ *ad.* (England). Crown blackish brown with a central and two lateral buff stripes; upper parts black varied with rufous and warm buff, the last forming long lines on each side of the back; quills blackish, the first margined and the wing-coverts tipped and slightly barred with dull white; middle tail-feathers black tipped with rufous marbled and barred with black, the rest rufous buff barred with blackish; lores blackish; neck, throat, and upper breast buffy white varied with blackish; flanks and axillaries white barred with blackish; bill pale reddish brown at the base, otherwise dark brown; legs pale greenish; iris dark brown. Culmen 2·8, wing 5·1, tail 2·4, tarsus 1·35. Female similar but a trifle larger. The young bird is duller in colour, and is more rufous, especially on the breast and neck.

Sabine's Snipe (*G. sabinii*) is merely a melanite form.

Hab. Europe generally, north to about 69° N. lat.; Iceland, Greenland; Madeira, Canaries, and Azores; North Africa and Southern Europe in winter; Asia north to Kamchatka, east to Japan, south in winter to India, China, and as far south as Batchian; of accidental occurrence in Bermuda.

Inhabits marshes and damp localities, and is as a rule shy and wary. Though not strictly nocturnal it is crepuscular, feeding in the early morning and late evening, its food consisting chiefly of worms, in search of which it probes with its bill, the terminal portion of which is soft and sensitive. Its note is a double cluck, *tjick-tjuck*, *tjick-tjuck*, and in the spring it produces, when on the wing, a peculiar drumming or bleating sound, caused by the stiff tail feathers as the bird drops swiftly through the air with extended tail. The nest is a

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mere depression in the ground, scantily lined with a few grass-bents, and the eggs, 4 in number, which are usually deposited in the latter part of April, vary in ground-colour from stone-greenish to greenish buff, with pale purplish grey underlying shell-markings, and umber-brown surface spots and blotches, and measure about 1·61 by 1·7. As a rule they are more heavily blotched at the larger end.

In North America the present species is replaced by a closely allied form, *Gallinago delicata* (Ord), differing in having 16 tail-feathers instead of 14 as in *G. cœlestis*, the under wing-coverts and axillaries much more broadly barred with dull slate, the bill shorter, usually below 2·75, and the tarsus shorter. This form is said, on somewhat doubtful evidence, to have occurred in Britain.

1054. Pin-tailed Snipe.

GALLINAGO STENURA.

Gallinago stenura (Kuhl), fide Bp. Ann. Stor. Nat. Bologna, iv. fasc. xiv. p. 335 (1830); David and Oust. Ois. Chine, p. 478; Sharpe, Cat. B. Br. Mus. xxiv. p. 619; (Seebohm), B. Jap. Emp. p. 345; Tacz. F. O. Sib. O. p. 959; Blanf. F. Brit. Ind. Birds, iv. p. 289; Dresser, Ibis, 1802, p. 179, pl. vi. figs. 3, 6 (eggs).

♂ *ad.* (N. Siberia). Differs from *G. cœlestis* in having normally 26 tail-feathers, the 10 middle ones broad, and the rest shorter, very narrow and stiff, the wing lining and axillaries more broadly barred, the bill not so broad at the point, and the white margins to the secondaries narrower or obsolete. Culmen 2·35, wing 4·8, tail 1·8, tarsus 1·25 inch. Sexes alike.

Hab. Siberia, west to the Yenesei valley, and has been recorded from Japan; in winter is found in China, Corea, India, Ceylon, and the Malay archipelago.

In habits it much resembles *G. cœlestis*, but owing to its beak being less sensitive it probes less and feeds more on insects, grubs, crustacea, &c., than worms, is more often found on dry grass and stubbles, and its cry is somewhat dissimilar, and sharper. Its flight is heavier and more like that of *G. major*, and its drumming sounds like bubbling water, and is continued longer than that of *G. cœlestis*. It breeds on the Yenesei in about 65° 40′ N. lat., its nest being similar to that of *G. cœlestis*, but its 4 eggs are larger, more profusely marked, especially at the larger end, and have the ground-colour as in those of *G. major*. In size they average 1·65 by 1·18.

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1055. Swinhoe's Snipe.

GALLINAGO MEGALA.

Gallinago megala, Swinhoe, Ibis, 1861, p. 343; David and Oust. Ois. Chine, p. 479; Seebohm, B. Jap. Emp. p. 343; Sharpe, Cat. B. Br. Mus. xxiv. p. 624; Tacz. F. O. Sib. O. p. 956.

Kharaldzin, Buriat.; *Toutagaldzin*, Tungus.

♂ *ad.* (Lake Baikal). Differs from *G. stenura* in having 20 tail-feathers, the 5 lateral ones on each side attenuated, the under wing surface, axillaries, and flanks bolder and closely barred with black. Culmen 2·25, wing 5·5, tail 2·15, tarsus 1·33 inch.

Hab. Eastern Siberia (the Southern Baikal, Dauria, the Amoor, and the Ussuri rivers); Japan; Corea; S.E. Mongolia; China; in winter south to the Philippines, Borneo, and the Moluccas.

In habits it does not appear to differ from *G. stenura*, but its eggs seem to differ greatly from those of that species, being, according to Taczanowski, in form like those of *Scolopax rusticula*, in colour pale cream or ochreous, the shell-markings reddish grey and the surface spots and markings reddish brown or brown, and measure about 1·63 by 1·22.

1056. New Holland Snipe.

GALLINAGO AUSTRALIS.

Gallinago australis (Lath.), Ind. Orn. Suppl. p. lxv. (1801); (Gould), B. of Austr. vi. pl. 40; Seebohm, B. Jap. Emp. p. 342; Sharpe, Cat. B. Br. Mus. xxiv. p. 652.

Yama-shigi, Jap.

♂ *ad.* (Japan). Larger and stouter than *G. cœlestis*, the light markings on the upper parts paler, more buffy isabelline; throat, neck, breast, and under tail-coverts washed with warm ochreous buff; the two outer tail-feathers somewhat attenuated; bill yellowish olive at the base, otherwise brown; legs olive yellowish; iris dark brown. Culmen 3·0, wing 6·4, tail 2·25, tarsus 1·35 inch.

Hab. Japan, migrating south for the winter to Australia and Tasmania.

In general habits it does not differ from *G. cœlestis*, but it flies heavier and sits closer, but on being flushed its note is similar, and it also frequents similar damp localities. It

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breeds in Japan on Fuji-yama at 2,000 to 3,000 feet altitude in May and June, its nest being a hollow in the ground amongst grass, and its 4 eggs are stone-buff, blotched chiefly at the larger end with deep umber-brown, and measure about 1·75 by 1·19.

1057. Solitary Snipe.

GALLINAGO SOLITARIA.

Gallinago solitaria, Hodgson, Glean. in Science, iii. p. 238 (1831); David and Oust. Ois. Chine, p. 476, pl. 122; (Temm. and Schlegel), Faun. Jap. Aves, p. 112, tab. lxviii.; (Seebohm), B. Jap. Emp. p. 342; Sharpe, Cat. B. Br. Mus. xxiv. p. 654; Blanf. F. Brit. Ind. Birds, iv. p. 290; *G. hyemalis* (Eversm.), Bull. Soc. Mosc. 1845, p. 257; Tacz. F. O. Sib. O. p. 953.

♂ *ad.* (Japan). Upper parts generally dark brown irregularly marked with rufous and white, not buff; crown with an irregular median white stripe; a line from the base of the bill to behind the eye and chin white; quills brown very narrowly margined externally with whitish, the first mottled; tail-feathers black at base, white towards the end, irregularly dark barred; throat and breast brown, slightly marked with white; rest of under parts white, all but middle of abdomen barred with blackish; bill plumbeous, black at tip; base of lower mandible yellowish brown; feet dull olive green; iris dark brown. Culmen 2·9, wing 6·4, tail 2·85, tarsus 1·3 inch. Sexes alike.

Hab. The Himalayas west to Afghanistan and the Altai; Eastern Central Asia and Siberia; north to Kamchatka; Tibet; Mongolia; Japan; in winter south to Northern India and China.

Inhabits marshes as well as the vicinity of forests, and feeds chiefly on insects and grubs. In general habits and flight resembles *G. stenura*. Its nest and eggs are unknown.

1058. Jack Snipe.

GALLINAGO GALLINULA.

Gallinago gallinula (Linn.), Syst. Nat. i. p. 244 (1766); (Naum.), viii. p. 344, Taf. 210; (Hewitson), p. 355, pl. xcix.; (Gould), B. of E. iv. pl. 322; (id.), B. of Gt. Brit. iv. pl. 80; Dresser, vii. p. 653, pl. 544; David and Oust. Ois. Chine, p. 479; (Seebohm), B. Jap. Emp. p. 344; (Sharpe), Cat. B. Br. Mus. xxiv. p. 665; (Tacz.), F. O. Sib. O. p. 964; Blanf. F. Brit. Ind. Birds, iv. p. 292; Saunders, p. 575; Lilford, v p. 67, pl. 28; Poynting, p. 119, pl. 26.

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Bécassine sourde, French; *Narseja pequeña*, Portug.; *Agachadiza pequeña*, Span.; *Frullino*, Ital.; *Halbschnepfe*, German; *Bokje*, Dutch; *Enkelt-Bekkasin*, Dan.; *Smaabekkasin*, Norweg.; *Halfenkel-Beckasin*, Swed.; *Ucca-mäkastak*, Lapp.; *Pieni Taivanjaara*, Finn.; *Bekass-stooshik*, *Garschnep*, Russ.

♂ *ad.* (Lapland). A broad central and two superciliary stripes on the crown black, the crown marked with deep rufous; rest of head yellowish buff; hind neck and fore back brown variegated with dark brown and white; back and scapulars black glossed with green and purple and marked with chestnut; a lateral ochreous stripe on each side; wing-coverts margined with dull grey; rump black glossed with purple; tail black margined and mottled with rufous, the middle feathers elongated; chin and upper throat white; lower throat, breast, and flanks greyish buff clouded with reddish brown, and marked with dark brown; rest of under parts white, the under tail-coverts striped with brown; bill yellowish fleshy at base, otherwise blackish; legs greyish, tinged with green at the joints; iris dark brown. Culmen 1·7, wing 4·25, tail 1·9, tarsus 0·95 inch. Female rather duller. In winter the upper parts are less glossed with green and purple.

Hab. Northern Europe and Asia, north to above the Arctic Circle, breeding in the high north; in winter south to Britain, the Mediterranean, North Africa, India, Ceylon, and China; rare in Japan in winter.

Is less shy and lies closer than *G. cœlestis*, which it otherwise much resembles, and like that bird remains hidden during the day, and feeds in the evening and early morning, obtaining its food chiefly by probing in the soft soil of the damp places it frequents. It produces also a loud sound in the breeding season. Its nest is a hollow in the ground scantily lined with a few grass straws. The eggs, 4 in number, are very large for the size of the bird, and are usually deposited in June; they resemble those of *G. cœlestis*, but are more varied, often richer in colour, and measure about 1·55 by 1·05.

LIMICOLA, Koch, 1816.

1059. Broad-billed Sandpiper.

LIMICOLA PLATYRHYNCHA.

Limicola platyrhyncha (Temm.), Man. d'Orn. p. 398 (1815); (Hewitson), ii. p. 359, pl. c.; (Gould), B. of E. iv. p. 331; Dresser, viii. p. 3, pl. 545; Sharpe, Cat. B. Br. Mus. xxiv. p. 612; Blanf. F. Brit. Ind. Birds, iv. p. 279; Saunders, p. 577; Lilford, v. p. 74, pl. 30; Poynting, p. 127, pl. 28; *L. pygmæa*, Koch (nec. Lath.), Baier. Zool. p. 316 (1816); Naum. viii. p. 271, Taf. 207; Gould, B. of Gt. Brit. iv. pl. 75.

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Gambecchio frullino, Ital.; *Kleiner-Sumpfläufer*, German; *Brednœbet-Strandlöber*, Dan.; *Brednœbet Strandvibe*, Norweg.; *Myrsnäppa*, Swed.; *Ucca-jäggiloddi*, Lapp.; *Jänkäsirriäinen*, Finn.

♂ *ad.* (Finland). Upper parts generally black with narrow greyish yellow or rufous yellowish margins to the feathers, the crown and nape darker; a whitish line over the eye to the nape; rump, upper tail-coverts, and middle elongated tail-feathers nearly all black, the lateral tail-feathers grey edged with white; secondaries and wing-coverts narrowly edged with dull white; under parts white, the neck, throat, and flanks spotted with blackish brown; bill blackish and green; legs yellowish grey, the toes and joints plumbeous grey; iris dark brown. Culmen 1·3, beak very broad, wing 4·1, tail 1·6, tarsus 0·88. Sexes alike. The adult in winter has the upper parts brownish ashy, the centre of the feathers darker; rump feathers black with paler margins; wings and tail paler than in summer; under parts white, the throat marked with small blackish grey striations.

Hab. Northern Europe, chiefly in the eastern portions, breeding within the Arctic Circle, and migrating south in winter to Southern Europe and even North Africa; a rare straggler to Britain; Asia east to Western Siberia.

Differs from the Sandpipers chiefly in affecting at all seasons of the year fresh water and marshes and not the sea coast, and on passage it is not met with in large flocks. On the wing it behaves much like a Snipe, but when on the ground it skulks, unlike the Sandpipers. It is a rather silent bird, and I have never heard its note, which is described as *too-who*, rapidly repeated. Its food consists of insects of various kinds and larvæ. It breeds in June in the large marshes of Dovrefjeld and in Lapland, but not west of the Luleå Valley nor in Finmark, in open soft places, the nest being a neatly rounded hollow, lined with a few grass-bents. The eggs, 4 in number, vary considerably; the ground-colour is lighter or darker stone-buff, the shell-markings sparse and faint purplish grey, and the surface-markings dark umber-brown or umber-red, some eggs having these so profuse as to appear uniform coffee-red or dark coffee-brown; in size they vary from 1·22 by 0·85 to 1·25 by 0·93.

1060. Subsp. Limicola sibirica.

Limicola sibirica, Dresser, P.Z.S. 1876, p. 674; Bogd. Consp. Av. Imp. Ross. p. 101; Tacz. F. O. Sib. O. p. 924; *L. platyrhyncha* (nec. Temm.), David and Oust. Ois. Chine, p. 470; Seebohm, B. Jap. Emp. p. 337; Sharpe, Cat. B. Br. Mus. xxiv. p. 612, partim.

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♂ *ad.* (E. Siberia). Differs from *L. platyrhyncha* in having the upper parts more rufous, not so black, the feathers with tolerably broad pale margins. In winter dress similar to *L. platyrhyncha*.

Hab. The Southern Baikal, the shores of the Sea of Ochotsk; Japan and China in winter.

This is merely an eastern race of our common Broad-billed Sandpiper, and does not differ from it in habits. Its nest and eggs are as yet unknown.

TRINGA, Linn., 1766.

1061. Pectoral Sandpiper.

TRINGA MACULATA.

Tringa maculata, Vieill. Nouv. Dict. xxxiv. p. 465 (1819); Dresser, viii. p. 11, pl. 546; (Sharpe), Cat. B. Br. Mus. xxiv. p. 562; Ridgway, p. 156; Saunders, p. 579; Lilford, v. pp. 76, 78, pls. 31, 32; Poynting, p. 135, pl. 29; *T. pectoralis* (Say), in Longs. Exp. i. p. 171 (1823); Gould, B. of E. iv. pl. 327; id. B. of Gt. Brit. iv. pl. 67; Audub. B. Am. 8vo ed., v. p. 259, pl. 329.

♂ *ad.* (N. America). Crown and upper parts blackish brown with greyish and ochreous buff margins, the rump blackish; middle tail-feathers blackish, narrowly margined with ochreous brown, the rest dusky cinereous tipped with white; primaries blackish, the shaft of the first one white; wing-coverts blackish grey with pale grey margins; chin white; sides of head, neck, upper breast, and flanks greyish, clearly striped with blackish brown, the last washed with pale buff; bill greenish black, light olive-green at base; legs clay-yellow; iris dark brown. Culmen 1·2, wing 5·0, tail 2·3, tarsus 1·1 inch. Sexes alike. In autumn the feathers on the upper parts are more uniform, the lighter markings less buffy, and the black less distinct, the throat and breast whiter and less distinctly striped.

Hab. Arctic and subarctic North America in summer, migrating south to the West Indies and South America for the winter; Greenland; of accidental occurrence in Great Britain.

Frequents damp localities, meadow-land and marshes, and on migration is not found in flocks but singly or in pairs, and when flushed rises like a Snipe, uttering a sharp cry. Like its allies it feeds on coleoptera larvæ, small aquatic insects, and also on some species of seaweed. In the spring the male inflates its throat to more than double the natural size, and utters a deep, hollow, resonant, but musical note, *tōō-ŭ*, *tōō-ŭ*, many times repeated, this note or song being uttered both when on the

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wing and on the ground. It breeds in Arctic America on the ground, usually in a tuft of grass, and in June deposits 4 eggs, which are drab, sometimes with a greenish tinge, spotted and blotched with umber-brown, and measure about 1·49 by 1·07.

1062. Sharp-tailed Sandpiper.

TRINGA ACUMINATA.

Tringa acuminata (Horst.), Trans. Linn. Soc. xiii. p. 192 (1821); David and Oust. Ois. Chine, p. 470; Seebohm, B. Jap. Emp. p. 339; Dresser, ix. p. 363, pl. 712; (Sharpe), Cat. B. Br. Mus. xxiv. p. 566; Tacz. F. O. Sib. O. p. 908; Saunders, p. 580; Ridgway, p. 155; Nelson, Nat. Hist. Alaska, p. 106, pl. vii.; *T. australis* (nec. Gmel.), Gould, B. of Austral. vi. pl. 30.

♂ *ad.* (China). Crown rusty red striped with black; upper parts more rufous than *T. maculata*; shafts of quills all white for a portion of their length; tail-feathers blackish margined with white, the middle ones elongated and rufous margined, all the feathers pointed; a streak over the eye white spotted with black; under parts white, the throat and breast spotted with black; the breast and flanks washed with rufous; the rest of the under parts with squamate black markings; bill olivaceous at the base, otherwise blackish brown; legs yellowish olive; iris hazel-brown. Culmen 1·25, wing 5·3, tail 2·15, tarsus 1·2 inch. Sexes alike. In winter the crown is rusty, the rest of upper parts greyish brown streaked with dusky; superciliary stripe and under parts white; breast greyish buff with indistinct dusky streaks. The young bird resembles the adult in winter but is darker above.

Hab. Kamchatka and Alaska; Eastern Siberia; Japan in winter and south to the Pelew, Sunda, and Molucca Islands, New Guinea, New Ireland, the Friendly Islands, Australia and New Zealand; has occurred twice in England.

In habits it resembles *T. maculata*, with which species it often associates. Its note, when taking wing, is said to be a soft metallic *pleep, pleep*. It doubtless breeds in North-eastern Siberia, but its nest and eggs are unknown.

1063. Baird's Sandpiper.

TRINGA BAIRDI.

Tringa bairdi (Coues), Proc. Acad. Nat. Sc. Philad. 1861, p. 194; (Sharpe), Cat. B. Br. Mus. xxiv. p. 570; Ridgway, p. 157; Tacz. F. O. Sib. O. p. 922.

♂ *ad.* (N. America). Upper parts generally blackish margined with sandy and rufous buff; the crown greyish buff streaked with brownish

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black ; the rump and upper tail-coverts black, marked with warm sandy buff, the lateral coverts white, banded with dusky brown ; tail greyish brown, the middle feathers rather darker and longer ; under parts white, the throat, breast, and flanks washed with buff and finely striped with brown ; bill black ; legs and feet slaty black ; iris brown. Culmen 1·0, wing 4·7, tail 2·2, tarsus 0·95 inch. In winter the upper parts are greyish brown with dusky mesial streaks. The young bird has the dorsal feathers narrowly margined with dull white, and the streaks on the throat are less clearly defined.

Hab. America generally, breeding in the high north and migrating for the winter down to Chili and Argentina; the Chukche Peninsula, N. Siberia ; has occurred in Damaraland, and once in England.

In general habits it does not differ from its allies, but is said to be generally seen solitary or in pairs. It breeds late in June, the nest being a depression in the ground, scantily lined, and well hidden in the grass. The 4 eggs are light creamy buff, sometimes tinged with rusty, thickly speckled and spotted with deep reddish brown or chestnut, and measure about 1·30 by 0·93.

1064. Bonaparte's Sandpiper.

TRINGA FUSCICOLLIS.

Tringa fuscicollis, Vieill. Nouv. Dict. xxxiv. p. 461 (1819) ; Dresser, viii. p. 15, pl. 547 ; (Sharpe), Cat. B. Br. Mus. xxiv. p. 574 ; Ridgway, p. 157 ; Saunders, p. 581 ; Poynting, p. 141, pl. 30 ; Lilford, v. p. 80, pl. 33 ; *T. bonapartii*, Schlegel, Rev. Crit. p. lxxxix. (1844) ; Gould, B. of Gt. Brit. iv. pl. 71.

♂ *ad.* (Wisconsin). Differs from its near allies in having the upper tail-coverts white ; upper parts brownish grey marked with ochraceous and rusty reddish, and striped with black ; under parts white ; lower throat, breast, and flanks clearly spotted with blackish brown ; bill blackish, at base dull green ; legs dusky greenish ; iris blackish brown. Culmen 1·1, wing 4·7, tail 1·8, tarsus 1·0 inch. Sexes alike. In winter the upper parts are dull greyish brown, with darker streaks, and the markings on the breast are less distinct. The young bird has the upper parts with whitish margins, and the neck and breast washed with greyish buff, the markings ill-defined.

Hab. Eastern North America, breeding far north, and in winter passing through the West Indies and Eastern South America to the Falkland Islands ; of accidental occurrence in Britain.

In habits it does not differ from its allies, and is generally to be found in marshy places near the coast. It breeds in Arctic

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America near Franklin Bay, its nest being a shallow cavity in the ground lined with a few decayed leaves, and late in June or early in July it deposits 4 eggs, which are rufous drab, boldly marked with dark sepia-brown or blackish brown, those at the larger end being almost confluent; in size they measure 1·35 by 0·95.

1065. DUNLIN.

TRINGA ALPINA.

Tringa alpina, Linn. Syst. Nat. i. p. 249 (1766); Naum. vii. p. 426, Taf. 186; Dresser, viii. p. 21, pl. 548; (Sharpe), Cat. B. Br. Mus. xxiv. p. 602; Saunders, p. 583; Lilford, v. p. 81, pl. 34; Blanf. F. Brit. Ind. Birds, iv. p. 279; *T. variabilis*, Meyer, Ann. Wetteran. Gesellsch. i. p. 275 (1809); Hewitson, ii. p. 364, pl. cii.; *T. cinclus*, Linn. tom. cit. p. 251; *T. schinzii* (Brehm), Vög. Deutschl. p. 663 (1831); Naum. vii. p. 453, Taf. 187.

Bécasseau variable, French; *Churrilla*, Span.; *Piovanello pancia nera*, Ital.; *Alpen-Strandläufer*, German; *Strandbockje* Dutch; *Louthrœll*, Icel.; *Almindelig-Ryle*, Dan.; *Foranderlig-Strandvibe*, Norweg.; *Kärrsnäppa*, Swed.; *Suo-sirriäinen*, Finn.; *Pestrosoboy-pessotchnik*, Russ.

♂ *ad.* (England). Crown and upper parts generally black, varied with rusty red or yellowish red; nape, sides and back of neck white, streaked with blackish grey; rump and upper tail-coverts black with greyish margins; middle tail-feathers blackish grey, elongated, the rest dull ashy grey; a whitish stripe over the eye; chin white; throat and upper breast white, broadly striped with black; a broad black patch on the lower breast; rest of under parts white; bill and legs black; iris dark brown. Culmen 1·3, wing 4·4, tail 2·0, tarsus 1·0 inch. Female similar, but as a rule larger. In winter the head and upper parts are dull ashy grey, the feathers with darker centres; rump and upper tail-coverts black, margined with grey; under parts white, the lower throat and sides of neck striated with brownish.

Hab. Europe north to Novaya Zemlya and the Arctic coasts, but not Spitsbergen, breeding as far south as Britain and Denmark; in winter migrating to Southern Europe, and Africa as far south as Zanzibar; the Canaries; Asia east to India; accidental in W. North America.

Frequents the coasts, estuaries, and flats left bare by the tide, and less often the shores of inland lakes and morasses; in winter and when on passage in flocks consorting with other waders, and feeding on marine worms, crustaceans, and insects of various kinds. Its flight is swift and strong, and its call-note is a clear whistle. It breeds from the latter part of April to the middle

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of June, the 4 eggs being deposited in a depression in the ground sparingly lined with grass-bents, usually near the sea in some grass-covered swampy place. The eggs vary in ground-colour from pale greenish grey to pale stone-colour or dark stone-buff, and are usually marked with purplish grey shell blotches and dark brown surface spots and blotches; in size they measure about 1·29 by 0·94.

1066. Subsp. Tringa americana.

Tringa americana (C. L. Brehm), Vogelfang, p. 317 (1855); Cassin, B. N. Am. p. 719; Sharpe, Cat. B. Br. Mus. xxiv. p. 608; *T. alpina* (nec. Linn.), Seebohm, B. Jap. Emp. p. 334; *T. pacifica* (Coues), P. Acad. N. S. Phil. 1861, p. 89; Tacz. F. O. Sib. O. p. 897; Ridgway, p. 160.

♂ *ad.* Differs from *T. alpina* in being larger and more brightly coloured, the chin and upper throat pure white, contrasting conspicuously with the black on the lower breast. Culmen 1·7, wing 4·75, tail 2·25, tarsus 1·1 inch.

Hab. North America generally; the West Indies in winter; Eastern Siberia north to Kamchatka, south to Japan, Corea, and China, west to the Boganida.

Is merely a climatic form of our European Dunlin, and does not differ from it in habits, food, or nidification.

1067. Little Stint.

TRINGA MINUTA.

Tringa minuta, Leisl. Nachtrag zu Bechst. Naturg. Deutschl. i. p. 74 (1811); Naum. vii. p. 391, Taf. 184; Gould, B. of E. iv. p. 332; (id.), B. of Gt. Brit. iv. pl. 72; Dresser, viii. p. 29, pls. 549, 550 fig. 1, 552 fig. 1; (Sharpe), Cat. B. Br. Mus. xxiv. p. 538; Tacz. F. O. Sib. O. p. 918; Blanf. F. Brit. Ind. Birds, iv. p. 273; Saunders, p. 585; Lilford, v. p. 86, pl. 35; Poynting, p. 149, pls. 32, 33.

Bécasseau minute, French; *Churrilla minuta*, Span.; *Gambeccio*, Ital.; *Kleiner Strandläufer*, German; *Kleine Strandlooper*, Dutch; *Dværgryle*, Dan.; *Liden Strandvibe*, Norweg.; *Småsnäppa*, Swed.; *Pikku-sirriäinen*, Finn.; *Chota-pau-lopa*, Hindu.

♂ *ad.* (Spain). Forehead and cheeks white; feathers in front of the eye, ear-coverts, and sides of neck rufous mottled with black, and slightly with grey; upper parts generally black, broadly margined with rufous, and to some extent with whitish; quills dark greyish brown, primary

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shafts chiefly white ; wing-coverts tipped with white ; upper tail-coverts and middle tail-feathers black, the former slightly marked, the latter margined with rufous, rest of tail pale ashy with narrow white margins ; under parts white, the fore neck and breast tinged with rufous, and with specks of dark brown ; bill and feet black ; iris brown. Culmen 0·7, wing 3·7, tail 1·7, tarsus 0·75, middle toe 0·75. Sexes alike. In winter the upper parts are greyish brown with blackish centres to the feathers, the rufous tinge lacking in the plumage ; under parts white ; the sides of the upper breast brownish. The young bird has the upper parts blackish, with rufous and whitish margins, the under parts white, the breast tinged with buff and unspotted.

Hab. Northern Europe, breeding in the eastern and high northern portion, migrating for the winter as far as South Africa ; Northern Asia, east to Lake Baikal, south in winter to India and Ceylon.

Frequents on passage and in winter the sea coasts, river banks, marshes and mud-flats, and is then usually seen in small flocks and consorting with other waders. Its flight is swift but irregular, and its note, *drrr*, *drrrt*, *drrrt*, is often uttered when on the wing. Its food consists of aquatic insects, worms, small crustacea, and occasionally seeds of shore-plants. It breeds from Northern Russia to the Taimyr Peninsula, the nest being a mere depression or cup in the ground near the tide-mark, scantily lined with dried leaves or grass, and the 4 eggs, which are deposited in June or July, are miniatures of Dunlins' eggs, and measure about 1·12 by 0·80.

1068. Eastern Little Stint.

TRINGA RUFICOLLIS.

Tringa ruficollis, Pallas, Reis. Russ. Reichs. iii. p. 700 (1776) ; David and Oust. Ois. Chine, p. 472 ; (Sharpe), Cat. B. Br. Mus. xxiv. p. 545 ; Blanf. F. Brit. Ind. Birds, iv. p. 274 ; Tacz. F. O. Sib. O. p. 920 ; *T. damacensis*, Horsf. Tr. Linn. Soc. xiii. p. 192 (1821) ; *T. albescens*, Temm. Pl. Col. v. pl. 41 (1823) ; Gould, B. of Austr. vi. pl. 31.

♂ *ad.* (E. Siberia). Differs from *T. minuta* in being somewhat larger, and in having the sides of the face and neck, the throat and chest bright rufous, the chin alone whitish ; bill and legs black ; iris nearly black. Culmen 0·7, wing 4·0, tail 1·85, tarsus 0·7, middle toe 0·7 inch. Female similar but with less rufous in the plumage. In winter plumage this species is undistinguishable from *T. minuta*.

Hab. North-eastern Siberia from the Taimyr to Kamchatka, migrating south for the winter through Dauria and Mongolia, to Japan, China, Burma, India, the Malay Archipelago, and Australia.

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In general habits it does not differ from *T. minuta*. It doubtless breeds on the shores of the Arctic Ocean in North-east Siberia, but its nest and eggs are as yet unknown.

1069. Long-toed Stint.

TRINGA SUBMINUTA.

Tringa subminuta, Middendorf, Sib. Reise, ii. pt. 2, p. 222, Tab. xix. fig. 6 (1851); Seebohm, B. Jap. Emp. p. 338; Tacz. F. O. Sib. O. p. 914; Blanf. F. Brit. Ind. Birds, iv. p. 275; *T. damacensis* (nec. Horsf.), (Sharpe), Cat. B. Br. Mus. xxiv. p. 553; Ridgway, p. 158.

♂ *ad.* (E. Siberia). Resembles *T. minuta* in plumage, but differs in having a much longer middle toe, in only the first primary having a white shaft, and in the colour of the soft parts; beak olive-brown, becoming black towards the end; legs olivaceous yellow, darker on the joints; iris dark brown. Culmen 0·75, wing 3·7, tail 1·55, tarsus 0·82, middle toe 0·9 inch. Sexes alike.

Hab. Eastern and North-eastern Siberia, west to the Altai; Kamchatka; accidental in Alaska; on migration and in winter in Japan, the Kurile Islands, Corea, China, and the Indo-Malayan Islands to Australia.

In habits it does not differ from its allies. It is said to breed on Bering Island and Saghalien, but its eggs are as yet unknown.

1070. American Stint.

TRINGA MINUTILLA.

Tringa minutilla, Vieill. Nouv. Dict. xxxiv. p. 466 (1819); Dresser, viii. p. 51, pl. 552, figs. 2, 3; (Sharpe), Cat. B. Br. Mus. xxiv. p. 548; Ridgway, p. 158; Saunders, p. 587; Lilford, v. p. 90, pl. 37; Poynting, p. 155, pl. 34.

♂ *ad.* (N. America). Differs from *T. minuta* in being smaller, in having the upper parts blacker, less marked with rufous, the hind neck more ashy; rump and upper tail-coverts brownish black, the outermost feathers of the latter partly white; the first quill only with the shaft white; greater wing-coverts margined with whitish; throat white; fore neck and chest ashy, streaked with brown; rest of under parts white; bill blackish brown; legs yellowish brown; iris dark brown. Culmen 0·75, wing 3·35, tail 1·5, tarsus 0·72, middle toe and claw 0·75 inch. Sexes alike. In winter the upper parts are dull ashy grey, streaked with brownish, the breast greyish, with indistinct darker streaks, the rest of the under parts white.

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Hab. Arctic and subarctic America in summer, migrating south for the winter to South America; of accidental occurrence in the south-west of England, where it has been thrice obtained.

In habits and food it does not differ from its European congeners, and frequents also similar localities. It breeds in Arctic America and as far south as Labrador, the nest being a mere depression in the ground, lined with a few dried leaves and grass-bents, and the 4 eggs, which are laid late in June or early in July, vary in ground-colour from light drab to pale brownish, and the markings are sepia-brown or chestnut-brown, and are, as a rule, more numerous at the larger end. In size they measure about 1·10 by 0·81.

1071. Temminck's Stint.

TRINGA TEMMINCKI.

Tringa temminckii, Leisl. Nachtrag zu Bechst. Naturg. Deutschl. i. p. 64 (1811); Naum. vii. p. 483, Taf. 189; Hewitson, ii. p. 362, pl. ci.; Gould, B. of E. iv. pl. 333; (id.), B. of Gt. Brit. iv. pl. 73; Dresser, viii. p. 45, pls. 550 fig. 2, 551; (Sharpe), Cat. B. Br. Mus. xxiv. p. 555; David and Oust. Ois. Chine, p. 473; Blanf. F. Brit. Ind. Birds, iv. p. 275; Tacz. F. O. Sib. O. p. 916; Saunders, p. 589; Lilford, v. p. 87, pl. 36; Poynting, p. 159, pl. 35.

Bécasseau Temminck, French; *Terretita*, Span.; *Gambecchio nano*, Ital.; *Temmincks Strandläufer*, German; *Kleinste Strandlooper*, Dutch; *Temmincks Ryle*, Dan.; *Temmincks Strandvibe* Norweg.; *Mosnäppa*, Swed.; *Cirhi*, Lapp.; *Kangas-sirriäinen*, *Pieni-Sippi*, Finn.

♂ *ad.* (Finland). Upper parts greyish brown, the feathers with blackish centres and edged with greyish rufous or greyish brown; quills blackish brown, only the first with the shaft white; large wing-coverts tipped with white; middle tail-feathers dark brown, slightly elongated, the rest chiefly white, the outermost entirely so; sides of head greyish; a whitish stripe over the eye; fore breast ashy grey, with a warm ochreous tinge, slightly dark mottled; rest of under parts white; bill blackish; legs light brown; iris dark brown. Culmen 0·7, wing 3·75, tail 1·9, tarsus 0·65 inch. Sexes alike. In winter the upper parts are greyish brown with narrow darker shaft stripes, the under parts white, the breast pale brownish grey.

Hab. Northern Europe; passing south for the winter to North Africa; Northern Asia in summer, passing through Mongolia to China and India for the winter.

Frequents the sea coast and marshes near the sea, but during the breeding season it is often found on inland marshes

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and the shores of inland lakes. In general habits it resembles *T. minuta*, and its food consists of small worms, insects, &c. Its call-note is a shrill *Tirrii*, and in the breeding season it indulges in a peculiar butterfly-like flight, at the same time uttering a peculiar churring sound, which may also be heard when the bird is sitting on some elevated perch. The nest, which is frequently placed near water, is a deep cup-shaped depression in the soil, usually amongst grass, scantily lined with grass-bents. The eggs, 4 in number, are usually deposited in June, and are pale stone-colour or greenish grey, with purplish brown shell-markings, and dark reddish brown surface spots and blotches, which are often collected round the larger end; in size they average 1·10 by 0·79.

1072. Pigmy Curlew.

TRINGA SUBARQUATA.

Tringa subarquata (Güld), Nov. Comm. Petrop. xix. p. 471, Tab. xviii. (1775); Naum. vii. p. 408, Taf. 185; Gould, B. of E. iv. pl. 328; (id.), B. of Gt. Brit. iv. pl. 68; Audub. B. Am. pl. 263; Dresser, viii. p. 59, pl. 558; David and Oust, Ois. Chine, p. 472; (Sharpe), Cat. B. Br. Mus. xxiv. p. 587; (Tacz.), F. O. Sib. O. p. 925; Blanf. F. Brit. Ind. Birds, iv. p. 278; Saunders, p. 591; Lilford, v. p. 91, pl. 38; Newton, P.Z.S. 1897, p. 890, pl. li. (eggs); "*Tr. ferruginea*, Brünn." Ridgway, p. 160.

Bécasseau cocorli, French; *Churra, Siseta-rocha*, Span.; *Piovanello*, Ital.; *Bogenschnäbliger-Strandläufer*, German; *Krombek-Strandlooper*, Dutch; *Krumnæbet-Ryle*, Dan.; *Krumnæbet Strandvibe*, Norweg.; *Spofsnäppa*, Swed.; *Pitkänokka-sirriäinen*, Finn.

♂ *ad.* (Spain). General colour of plumage rich rusty or fox-red, the feathers on the upper parts marked with black, and some margined with greyish white; quills brownish black; wing-coverts dull ashy with pale margins; rump dark grey; upper and under tail-coverts white, slightly barred with blackish; tail grey with paler margins; bill and legs greenish black; iris dark brown. Culmen 1·5, wing 4·88, tail 2·35, tarsus 1·5 inch. Sexes alike. In winter the rust-red is absent, the upper parts being dull grey with indistinct darker stripes, the under parts white, the sides of the head and throat pencilled with dark grey.

Hab. The extreme northern parts of Asia in summer, at other seasons most parts of Europe, the whole of Africa and Madagascar, Asia south through India and China to Australia; of occasional occurrence in Western N. America and Alaska.

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Frequents the sea shore, sandy places, mud-flats, &c., together with other Sandpipers, often in large flocks, and in general habits is very similar to the Dunlin, but its call-note differs. It is only recently that its nest and eggs have been known, Mr. H. L. Popham having found it breeding at the mouth of the Yenesei River in Northern Siberia. The nest was a rather deep hollow in the reindeer moss on a low ridge of ground, somewhat drier than the surrounding swampy tundra, and contained 4 eggs, which resemble those of *Gallinago cœlestis* except in size, as they measure only 1·47 to 1·40 by 1·02 to 1.

1073. Knot.

TRINGA CANUTUS.

Tringa canutus, Linn. Syst. Nat. i. p. 251 (1766); Gould, B. of E. iv. pl. 324; id. B. of Gt. Brit. iv. pl. 65; Dresser, viii. p. 77, pls. 555, 556; David and Oust. Ois. Chine, p. 469; Seebohm, B. Jap. Emp. p. 333; Sharpe, Cat. B. Br. Mus. xxiv. p. 593; Tacz. F. O. Sib. O. p. 894; Ridgway, p. 153; Saunders, p. 595; Lilford, v. p. 95, pls. 40, 41; *T. islandica*, Linn. Syst. Nat. i. pt. ii. add. (1767); Naum. vii. p. 372, Taf. 183.

Bécasseau maubèche, French; *Churra*, Span.; *Piovanello maggiore*, Ital.; *Rostrother Strandläufer*, German; *Kanoet-Strandlooper*, Dutch; *Randbrystingr*, Icel.; *Islandsk-Ryle*, Dan.; *Stor-Strandvibe*, Norweg.; *Kustsnäppa*, Swed.; *Ranta-sirriäinen*, Finn.

♂ *ad.* (Spain). Crown, nape, and hind neck light rust-red and white striped with black; upper parts black, strongly marked with rufous and with white edges; rump and upper tail-coverts white, barred with black and tinged with rufous; primaries blackish, secondaries and wing-coverts dark grey, most tipped with white; tail grey, narrowly margined with white; throat, neck, and under parts rust-red, middle of abdomen and tail-coverts white, the latter with narrow black stripes; bill and legs blackish; iris dark brown. Culmen 1·5, wing 6·7, tail 2·6, tarsus 1·25 inch. Sexes alike. In winter there is no red in the plumage, the upper parts being greyish ash, with faint dark stripes; under parts white, the throat, sides of neck, breast, and flanks slightly striped and marked with dull ashy grey.

Hab. The extreme north of the Old World in summer, passing through Europe to South Africa, Asia to Australia, and North America to Brazil for the winter; Japan, but not found in India in winter.

Is usually met with in small flocks on our coasts, where it frequents the sea shore, mud-flats, and sand-banks, feeding

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on small crustaceans, mollusca, worms, aquatic insects, &c. It is known to breed in Grinnell Land, the Melville Peninsula, and the Parry Islands, and the young in down have been obtained, but the only authentic egg known is said to be a specimen in the Smithsonian Museum at Washington.

1074. Eastern Knot.

TRINGA CRASSIROSTRIS.

Tringa crassirostris, Temm. and Schlegel, Faun. Jap. Aves, p. 107, pl. 64 (1847); David and Oust. Ois. Chine, p. 468; Seebohm, B. Jap. Emp. p. 332; Sharpe, Cat. B. Br. Mus. xxiv. p. 600; Tacz. F. O. Sib. O. p. 894; Blanf. F. Brit. Ind. Birds, iv. p. 277; *Schœniclus magnus*, Gould, B. Austr. vi. pl. 33.

♂ *ad.* (Kurile Isl.) Head and neck white closely striped with black; back black very narrowly margined here and there with grey; scapulars black with broad subterminal chestnut bands; rump greyish; tail-coverts white, the upper closely, the under tail-coverts sparingly spotted with black; tail brownish grey; quills blackish, the inner secondaries and wing-coverts dull ashy with white margins; breast almost black; rest of under parts white, the lower breast and upper flanks spotted with black; bill brown; legs grey; iris dark brown. Culmen 1·9, wing 7·0, tail 2·6, tarsus 1·35 inch. In winter the upper parts are pale brownish grey with whitish margins; no red in the plumage, tail-coverts sparingly spotted with black; under parts white, the neck striped, the breast and flanks faintly spotted with greyish brown.

Hab. Eastern Siberia, migrating south through Mongolia, Japan, and China to Burma, India, the Malay Archipelago, and Australia for the winter.

In general habits this species does not appear to differ from the Knot. Its nest and eggs are unknown.

1075. Purple Sandpiper.

TRINGA STRIATA.

Tringa striata, Linn. Syst. Nat. i. p. 248 (1766), id. Add.; Dresser, viii. p. 69, pl. 554; Saunders, p. 593; Lilford, v. p. 93, pl. 39; Poynting, p. 167, pl. 36; *T. maritima*, Gmel. Syst. Nat. i. p. 678 (1788); Naum. vii. p. 467, Taf. 188; Gould, B. of E. iv. pl. 334; (id.), B. of Gt. Brit. iv. pl. 74; Hewitson, ii. p. 366, pl. ciii; (Sharpe), Cat. B. Br. Mus. xxiv. p. 278; Ridgway, p. 153; Tacz. F. O. Sib. O. p. 902.

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Bécasseau violet, French; *Churrilla*, *Siseta*, Span.; *Piovanello violetto*, Ital.; *See-Strandläufer*, German; *Paarse-Strandlooper*, Dutch; *Selningr*, Icel.; *Fjærepist*, Norweg.; *Vintersneppe*, Dan.; *Skärsnäppa*, Swed.; *Gadde-birus*, Lapp.; *Meri-sirriäinen*, Finn.; *Pesoschnik-morskoi*, Russ.

♂ *ad.* (Greenland). Crown and nape black striped with white and ochreous; sides of head dull white striped with blackish; upper parts black glossed with purple; the mantle-feathers margined with white and reddish ochreous; the rump and middle tail-feathers uniform purplish black, rest of the tail-feathers blackish grey; quills blackish, the shafts white, the outer secondaries tipped with, and the inner ones chiefly, white; throat white striped with blackish grey; under parts white, the flanks marked, and under tail-coverts striped with blackish grey; bill ochreous at base, otherwise dark brown; legs ochreous, iris brown. Culmen 1·15, wing 4·7, tail 2·4, tarsus 0·9 inch. Sexes alike. In winter the head and neck are sooty blackish faintly tinged with purple, the upper parts purplish black, the mantle-feathers with narrow greyish margins: chin and under parts below the breast white, the flanks spotted with blackish grey.

Hab. Northern Europe, north to the North Cape, Iceland, Greenland, and Spitsbergen, migrating south to the Mediterranean in winter; North America, breeding far north, and in winter found south to the Middle United States; has been met with in North Asia as far east as the shores of the Taimyr Peninsula.

Is essentially a maritime bird, frequenting rocky places on the sea coast, and is seldom met away from the sea except during the breeding season, and even then it nests not far away. Its food consists of marine insects, mollusca, and sometimes seeds of shore-plants. It swims with ease, and I have known a bird to dive when wounded and pursued. The nest is a mere depression in the ground, and the 4 eggs, which are deposited from the middle of May to the early part of June, vary in ground-colour from sea-green and greenish grey to stone-buff, and are marked with purplish grey underlying, and dark reddish brown surface spots and blotches, which are usually more numerous at the larger end. In size they measure about 1·40 by 1·0.

1076. Subsp. Tringa couesi.

Tringa couesi (Ridgway), Bull. Nutt. Orn. Club, v. p. 160 (1880); Nelson, Rep. Nat. Hist. Alaska, p. 103, pl. vi.; Ridgway, p. 154; (Sharpe), Cat. B. Br. Mus. xxiv. p. 583; Tacz. F. O. Sib. O. p. 905.

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♂ *ad.* Differs from *T. maritima* in having the bill shorter, the upper parts more richly marked with rusty red, the breast more marked with blackish, with more or less of a black patch on each side. Culmen 1·0, wing 5·1, tail 1·9, tarsus 0·91 inch. In winter the plumage is like that of *T. maritima*.

Hab. N.E. Siberia, the Chukchi Peninsula, the Kuriles and Aleutian Isles; Kamchatka; Alaska.

Is an eastern representative of *T. maritima*, and does not differ from that species in its general habits. Its eggs are described as being pale olive-buff, varying to light brownish buff, spotted longitudinally and somewhat spirally with vandyke-brown or deep umber, and measure about 1·46 by 1·00.

1077. Western Semipalmated Sandpiper.

TRINGA OCCIDENTALIS.

Tringa occidentalis (Lawr.), Proc. Acad. N. S. Philad. 1864, p. 107; (Tacz.), F. O. Sib. O. p. 890; (Turner), Nat. Hist. Alaska, p. 148; (Nelson), Rep. Nat. Hist. Alaska, p. 113; (Ridgway), p. 162; *Ereunetes pusillus*, Sharpe, Cat. B. Br. Mus. xxiv. p. 514, partim; *E. petrificatus*, Illiger, Prodr. p. 262 (1811 partim); *T. semipalmata*, Wilson, Am. Orn. viii. p. 131 (1813 partim).

♂ *ad.* (Alaska). Crown and upper parts black varied with rusty red and cinnamon-buff; the rump and upper tail-coverts nearly uniform blackish except on the sides, which are white; quills blackish, the first with a white shaft; wing-coverts tipped with white; under parts white, the sides of head and throat, and the breast and flanks tolerably boldly streaked and spotted with blackish; bill greenish olive at the base, otherwise black; legs and feet greenish olive; iris dark brown. Culmen 1·0, wing 3·9, tail 1·8, tarsus 0·95 inch. In winter the upper parts are brownish grey, the crown paler, streaked narrowly with black; under parts white, the breast, sides of neck, and flanks narrowly streaked with dusky grey.

Hab. Western North America, breeding north to the shores of Norton Sound, Alaska, where it is very common; the Aleutian Islands. On the Asiatic coasts it has been met with on the Chukchi Peninsula in N.E. Siberia; on passage and in winter it is common on the Pacific coasts to South America, and is said also to occur on the Atlantic coasts.

This, the western representative of the semipalmated Sandpiper (*T. pusilla*, Linn.), does not differ from that species in habits. Its call-note is described as being a peeping trill. It

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arrives at its breeding place in May, and nests in June, the nest being a mere depression in the moss or grass, scantily lined with a few feathers. Its eggs, usually 4, but sometimes 5, in number, are described as being deep cinnamon-buff, sprinkled, speckled, or thickly spotted with bright rusty brown or chestnut, and measure about 1·24 by 0·87.

CALIDRIS, Cuvier, 1800.

1078. SANDERLING.

CALIDRIS ARENARIA.

Calidris arenaria (Linn.), Syst. Nat. i. p. 251 (1766); Audubon, B. of Am. p. 230; Naum. vii. p. 353, Taf. 182; Gould, B. of E. iv. pl. 335; id. B. of Gt. Brit. iv. pl. 66; Newton, P.Z.S. 1871, pl. iv. fig. 2 (egg); Dresser, viii. p. 101, pls. 559, 560; Layard, B. of S. Afr. p. 362; David and Oust. Ois. Chine, p. 467; (Seebohm), B. Jap. Emp. 336; Sharpe, Cat. B. Br. Mus. xxiv. p. 526; Tacz. F. O. Sib. O. p. 841; Blanf. F. Brit. Ind. Birds, iv. p. 270; Ridgway, p. 162; Saunders, p. 597; Lilford, v. p. 97, pl. 42; Poynting, p. 175, pl. 37.

Sanderling variable, French; *Churrilla de tres dedos*, *Pitillos*, Span.; *Piovanello tredatillo*, Ital.; *Ufer-Sanderling*, German; *Drieteenige-Strandlooper*, Dutch; *Sandlōber*, Norweg. and Dan.; *Sandlōpare*, Swed.; *Hieta-sirriäinen*, Finn.; *Morskoi-Sujok*, Russ.; *Medrouan*, Moor.

♂ *ad.* (England). Crown, nape, and upper parts richly varied black and rusty red; rump dull ashy grey marked with blackish grey; quills blackish; wing-coverts dark ashy grey margined with dull white, and slightly marked with rufous; middle tail-feathers blackish grey, the rest grey, the outermost nearly white; sides of head, throat, and upper breast light rufous marked with black; rest of under parts white; bill and legs blackish; iris dark brown. Culmen 1·15, wing 4·85, tail 2·05, tarsus 1·0 inch; hind-toe wanting. Female similar but less rufous. In winter both sexes have the upper parts light grey with darker stripes and the under parts white, with no rufous in the plumage.

Hab. The high northern portions of the Old and New Worlds; in winter migrating south to South Africa, Burma, India, Ceylon, the Laccadives, China, Japan, Australia, and Chile.

Frequents the sea coast, associating with other Sandpipers, and is by no means shy. It feeds on small marine insects, worms, and crustaceans, and in the summer to some extent on the buds of Arctic plants. Its note is a shrill but not unpleasant *wiek*.

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It breeds in Iceland (sometimes), Greenland, and (perhaps) Northern Siberia, the nest being a mere depression on the ground, and in June deposits 4 eggs, which resemble miniature eggs of the Curlew, and measure about 1·44 by 0·95.

EURYNORHYNCHUS, Nilss., 1821.

1079. Spoon-billed Sandpiper.

EURYNORHYNCHUS PYGMÆUS.

Eurynorhynchus pygmæus (Linn.), Syst. Nat. i. p. 231 (1766); Harting, Ibis, 1869, p. 427, pl. xii.; Gould, B. of As. vii. pl. 66; David and Oust. Ois. Chine, p. 474; Tacz. F. O. Sib. O. p. 928; (Seebohm), B. Jap. Emp. p. 338; Blanf. F. Brit. Ind. Birds, iv. p. 271; Ridgway, p. 160; *E. griseus*, Nilss. Orn. Suec. ii. p. 29 (1821).

♂ *ad.* (E. Siberia). Crown and back black margined with rufous and ochreous; wing-coverts and neck paler and greyer; middle of rump and upper tail-coverts, and middle tail-feathers blackish; sides of rump white; tail otherwise grey; quills blackish brown, the shafts white; sides of head, throat, and breast rusty red; rest of under parts and under surface of wings white, the lower breast spotted with black; bill and legs black; iris dark brown. Culmen 0·95, wing 3·9, tail 1·45, tarsus 0·85 inch; bill spatulate. Sexes alike. In winter the plumage is entirely without red; upper parts dusty grey, with white or paler margins; wing-coverts tipped with white; forehead, sides of head, neck, and under parts pure white.

Hab. North-eastern Siberia, migrating south to Japan, the coasts of China, Burma, and rarely those of India; accidental in Alaska.

But little is on record respecting this Sandpiper, which is easily recognizable by its broadly spatulate bill, and it is said to frequent mud-flats in company with other waders. It breeds in Northern Siberia, but its nest and eggs are as yet unknown.

MACHETES, Cuv., 1817.

1080. Ruff.

MACHETES PUGNAX.

Machetes pugnax (Linn.), Syst. Nat. i. p. 247 (1766); Naum. vii. p. 502, Taf. 190, 191, 192, 193; Hewitson, ii. p. 345, pl. xcv.; Gould, B. of E. iv. pl. 325; id. B. of Gt. Brit. iv. pl. 61; Dresser, viii. p. 87, pls. 557, 558; Layard, B. of S. Afr. p. 329; (Seebohm), B. Jap. Emp. p. 327; (Sharpe), Cat. B. Br. Mus. xxiv. p. 500; Tacz. F. O. Sib. O.

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p. 885 ; (Blanf.), F. Brit. Ind. Birds, iv. p. 268 ; (Ridgway), p. 168 ; Saunders, p. 601 ; Lilford, v. p. 122, pls. 53, 54 ; Poynting, p. 179, pl. 38.

Combattant, Paon de Mar, French ; *Combatiente*, Span. ; *Gambetta*, Ital. ; *Kampfhahn*, German ; *Kamphaan*, Dutch ; *Brushane*, Dan., Norweg., and Swed. ; *Suokukko, Suokulainen*, Finn. ; *Toroukhtann, Dratschounn*, Russ. ; *Habib-el-tchibib*, Moor. ; *Geh-wala*, Hindu.

♂ *ad.* (N. Russia). Upper parts generally brown, varied with black, warm buff and chestnut ochreous ; sides of rump nearly white ; tail ashy brown varied with black and chestnut-red ; quills blackish brown ; wing-coverts ashy brown ; feathers on the sides of neck and round the breast elongated, forming a conspicuous ruff or cape, white tinged with cream-buff ; breast below the ruff and upper flanks glossy blackish marked with white ; rest of under parts white, the under tail-coverts slightly marked with black ; face covered with warty yellowish tubercles ; bill blackish brown, fleshy at the base ; legs yellowish brown ; iris blackish brown. Culmen 1·68, wing 7·1, tail 2·7, tarsus 2·05 inch. The ruff varies extremely in colour and markings, scarcely any two birds, except those that have it uniform black or white, are alike. The female has the crown, nape, and upper parts sandy brown marked with blackish brown ; wings and tail as in the male ; chin whitish ; throat, breast, and upper flanks ashy brownish marked with darker brown ; rest of under parts white ; no sign of a ruff. In winter the male also lacks the ruff and tubercles on the face, and has the throat and neck as in the female.

Hab. Europe generally, breeding from the North Cape down to Denmark, and rarely in Eastern England ; in winter it passes as far south as the Cape of Good Hope ; in Asia it is found as far north as Kamchatka, south to India, Ceylon, and Borneo ; rarer in the east, but found as far as Japan ; of occasional occurrence in Eastern North America.

Frequents damp marshy localities. The Ruff is a silent bird, but in the spring and during migration the note, a low *kaek, kaek, kick, kack*, may be heard. The Ruff is polygamous, and in the spring the males assemble, or as it is termed "hill," and fight, or rather spar, for the possession of the females or Reeves, which alone undertake the cares of incubation. The nest is on the ground, well hidden, and the eggs, usually 4, but sometimes only 3, in number, are generally laid in May, and are pale olivaceous or stone-buff in ground-colour, richly blotched and marked, chiefly at the larger end, with umber-brown, and a few purplish grey shell spots, and measure about 1·69 by 1·22.

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TRINGITES, Cab., 1856.

1081. Buff-breasted Sandpiper.

TRINGITES RUFESCENS.

Tringites rufescens (Vieill.), Nouv. Dict. xxiv. p. 470 (1819); (Gould), B. of E. iv. pl. 326; id. B. of Gt. Brit. iv. pl. 64; Newton, P.Z.S. 1867, pl. xv. fig. 4 (egg); Dresser, viii. p. 109, pl. 561; Saunders, p. 601; Lilford, v. p. 99, pl. 43; Poynting, p. 183, pl. 39; *T. subruficollis* (Vieill.), tom. cit. p. 465 (1819); Ridgway, p. 169; Sharpe, Cat. B. Br. Mus. xxiv. p. 521.

♂ *ad.* (Mexico). Upper parts clay-buff marked with black, the dorsal feathers tipped with dirty white; quills blackish brown, the elongated inner secondaries metallic blackish brown margined with ochreous; tail brown tinged with metallic grey, with a subterminal blackish band and tipped with buffy white, the outer feathers marbled with blackish; under parts clay-yellow, paler on the abdomen and under tail-coverts, the sides of the breast blotched with black; the under surface of the wing marbled with black; bill greenish black; legs clay-yellow; iris hazel-brown. Culmen 0·9, wing 5·15, tail 2·25, tarsus 1·25 inch. Sexes alike.

Hab. America, breeding in the high north, and migrating south for the winter as far down in South America as Peru and Paraguay; of accidental occurrence in Europe, but has been obtained about a dozen times in England, three times in Ireland, once in Switzerland, and once in Heligoland.

Is chiefly met with inland and not on the coast, and frequents grassy plains and also sandy arid localities. It is tame and unsuspicious, and runs with ease and swiftness; on the wing it most nearly resembles a Ringed Plover. Its call-note is a low, weak *tweet*, and its food consists of insects of various kinds. It breeds in Arctic and subarctic America late in June or early in July, the nest being a mere depression in the ground scantily lined with a few withered leaves and dried grasses, and the eggs, 4 in number, are clay-yellow with an olivaceous or drab tint, or of a peculiar grey in ground-colour, boldly and sharply marked, chiefly at the larger end, with rich umber-brown and with purplish grey underlying shell blotches; in size they measure about 1·46 by 1·05.

BARTRAMIA, Less., 1831.

1082. Bartram's Sandpiper.

BARTRAMIA LONGICAUDA.

Bartramia longicauda (Bechst.), Kurze Uebers. Latham. p. 453, pl. 184 (1811); (Dresser), viii. p. 119, pl. 562; Sharpe, Cat. B. Br. Mus. xxiv. p. 509; Ridgway, p. 169; Saunders, p. 603; Lilford, v.

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p. 101, pl. 44 ; Poynting, p. 187, pl. 40 ; *Tringa bartramia*, Wils. Am. Orn. vii. p. 63, pl. 50, fig. 2 ; (Gould), B. of E. iv. pl. 313 ; (id.), B. of Gt. Brit. iv. pl. 63 ; (Naum.), viii. p. 43, Taf. 196.

♂ *ad.* (Wisconsin). Forehead buffy white marked with blackish brown ; crown blackish brown and rufous buff with an irregular central buff stripe ; hind neck brownish buff and black ; back and rump blackish brown, the former with rufous buff margins ; upper surface of wings greyish buff barred with blackish brown ; tail long, graduated, the middle feathers buffy brown, the rest pale rufous, all barred with black, the latter tipped with white and with a large subterminal black bar ; chin and fore face white ; neck and breast buffy white, the former striped, the latter margined with black ; rest of under parts white, the flanks and under wing-surface barred with black ; bill yellowish at base, otherwise blackish ; legs clay-yellow ; iris dark brown. Culmen 1·4, wing 6·65, tail 3·6, tarsus 1·95. Sexes alike. In winter the upper parts are paler, and the under parts less boldly marked.

Hab. Eastern and Central America, north to the Yukon valley and Nova Scotia, south in winter to Brazil and Peru ; of rare and accidental occurrence in Britain, Germany, Holland, Malta, Italy, and has been once recorded from Australia.

Frequents the grass prairies, where it is not seen in flocks, but singly or in pairs. Its call, when it takes wing, is a melodious whistle of three notes. As a rule it is not shy, and will often squat, reminding one of a Stone Curlew. Its food consists chiefly of insects, especially grasshoppers, and it is also known to eat berries. Its flesh is extremely well flavoured, and in the autumn it is very fat. Its nest is a mere hollow in the ground, and the eggs, 4 in number, are usually laid in June, and are pale clay ochreous or creamy drab with numerous purplish grey shell-markings and umber-brown surface spots, and measure about 1·75 by 1·28.

TOTANUS, Bechst., 1803.

1083. Redshank.

TOTANUS CALIDRIS.

Totanus calidris (Linn.), Syst. Nat. i. p. 245 (1766) ; Naum. viii. p. 95, Taf. 199 ; Hewitson, ii. p. 329, pl. lxxxix. ; Gould, B. of E. iv. pl. 310 ; id. B. of Gt. Brit. iv. pl. 54 ; Dresser, viii. p. 157, pls. 567 fig. 1, 568 fig. 1, 569 fig. 2 ; David and Oust. Ois. Chine, p. 464 ; Seebohm, B. Jap. Emp. p. 320 ; Sharpe, Cat. B. Br. Mus. xxiv. p. 414 ; Tacz. F. O. Sib. O. p. 866 ; Blanf. F. Brit. Ind. Birds, iv. p. 264 ; Saunders, p. 615 ; Lilford, v. p. 113, pl. 49 ; Poynting, p. 217, pl. 46.

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Chevalier-Gambetta, French; *Chalretta*, Portug.; *Archibebe*, *Tifort*, Span.; *Pettegola*, Ital.; *Gambett-Wasserläufer*, German; *Tureluur*, Dutch; *Stelkur*, Icel.; *Rödben-Klire*, Dan.; *Rödbenet-sneppe*, Norweg.; *Rödbent-snäppa*, Swed.; *Punajalka-vikla*, Finn.; *Krasnonoshka*, *Nastojaschy-ulit*, Russ.; *Chota-batan*, Hindu.

♂ *ad.* (Finland). Upper parts brown striped with blackish, the elongated secondaries, scapulars, and wing-coverts barred and marked with blackish; quills dark brown, the short secondaries white slightly marked with brown; larger wing-coverts white-tipped; lower back, rump, upper tail-coverts, and outer tail-feathers white, the two last barred with blackish; middle tail-feathers similar but ashy brown instead of white; under parts white, the throat, neck, and breast boldly striped with blackish, the flanks barred and striped, and under tail-coverts slightly barred with blackish; bill dark red at base, otherwise blackish; legs orange-red; iris dark brown. Culmen 2·0, wing 6·4, tail 2·8, tarsus 1·92 inch. Sexes alike. In winter the upper parts are ashy grey, and the under parts are much less striped and marked with blackish than in the summer.

Hab. Europe generally, breeding from Lapland down to the Mediterranean; Africa south to the Cape Colony in winter; the Canaries; Asia, east to Japan, north to nearly 70° N. lat., south on passage and in winter to Mongolia, Corea, China, India, and Ceylon, to the Malay Archipelago.

Frequents the sea shore except during the breeding season, when it is found both on the coast and in damp marshy places more inland. It is shy and wary, and when disturbed flies round uttering its shrill cry. Its flight is swift, but wavering, and it is able to swim with ease, and even dive when wounded. The nest is a cup-shaped depression in the ground, usually in a grass tuft, sometimes in an open situation, and the eggs, which are deposited from early in April to the latter part of May, according to latitude, are 4 in number, clay-buff in ground-colour, marked with purplish brown underlying shell blotches and dark brown surface spots and blotches, some being much bolder marked than others; in size they measure about 1·68 by 1·17.

1084. Spotted Redshank.

TOTANUS FUSCUS.

Totanus fuscus (Linn.), Syst. Nat. i. p. 243 (1766); Naum. viii. p. 123, Taf. 200; Hewitson, ii. p. 326, pl. lxxxviii.; Gould, B. of E. iv. pl. 309; id. B. of Gt. Brit. iv. pl. 55; Dresser, viii. p. 165, pls. 567 fig. 2, 568 figs. 2, 3, 569 fig. 1; David and Oust. Ois. Chine, p. 463; Seebohm, B. Jap. Emp. p. 319; Sharpe, Cat. B. Br. Mus. xxiv. p. 409;

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Tacz. F. O. Sib. O. p. 869; Blanf. F. Brit. Ind. Birds, iv. p. 265; Saunders, p. 617; Lilford, v. p. 118, pl. 51; Poynting, p. 223, pl. 47.

Chevalier brun, French; *Chuit*, *Andario*, Span.; *Gambetta fosca*, Ital.; *Dunkelfärbiger-Wasserläufer*, German; *Zwarte-Ruiter*, Dutch; *Sortsneppe*, Dan. and Norweg.; *Svartsnäppa*, Swed.; *Rivikt*, *Cipcastak*, Lapp.; *Mustavikla*, *Musta-Tjuti*, *Rivatu*, Finn.; *Polevoipetoushock*, *Schtschegol*, Russ.; *Batan*, *Gatni*, Hindu.

♂ *ad.* (N. Russia). Head, neck, and entire under parts sooty black, some of the chin and hind-neck feathers narrowly tipped with white; upper parts sooty black with a slight metallic gloss, and marked with white, giving a spotted appearance; rump white, the upper tail-coverts blackish barred with white; tail black, the middle feathers indistinctly barred with grey, the rest marked and tipped with white; flanks and under tail-coverts barred with white; under wing-surface white slightly marked with grey; bill black, but red at base of lower mandible; legs dark red; iris dark brown. Culmen 2·5, wing 6·7, tail 2·82, tarsus 2·3 inch. Sexes alike. In winter the crown, sides of head, hind neck and upper parts are brownish ashy, unspotted; a white streak over, and the space round the eye white; wings and tail greyer than in the summer; under parts white, the sides of the neck streaked, and flanks marked with pale ashy or sooty grey; legs dull reddish orange.

Hab. Northern Europe, ranging into the Arctic Circle to about 69° N. lat.; Asia north to Kamchatka; during passage and in winter ranging to Southern Europe, Africa as far south as the Cape Colony, Japan, China, Corea, Mongolia, and India; only occurs in Great Britain on passage.

In its habits it somewhat resembles the Common Redshank, but is readily distinguishable by its larger size and by not having the short secondaries white. Nor does it frequent the sea coast so much, and breeds inland, usually in dry forest districts. It frequently wades in search of food, and can swim with ease. Its call-note is a clear, loud *tjuti*. As a rule it is shy and wary, but will approach quite close when its young are threatened. Its food consists of worms, insects, small crustaceans, &c. Its nest is a cup-shaped hollow in the ground, scantily lined, and the eggs, 4 in number, are deposited in May or early in June, and in ground-colour vary from dark stone-buff to pale greenish buff and bright beryl-green, and are marked with pale purplish shell-blotches and dark umber-brown surface spots and blotches, these latter being often collected at the larger end; in size they measure about 1·87 by 1·25.

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1085. GREENSHANK.

TOTANUS GLOTTIS.

Totanus glottis (Linn.), Syst. Nat. i. p. 245 (1766) ; Naum. viii. p. 145, Taf. 201 ; Hewitson, ii. p. 336, pl. xci. ; Gould, B. of E. iv. pl. 312 ; David and Oust. Ois. Chine, p. 462 ; Seebohm, B. Jap. Emp. p. 321 ; Tacz. F. O. Sib. O. p. 860 ; Blanf. F. Brit. Ind. Birds, iv. p. 266 ; *T. nebularius*, Gunner. Leem. Lapp. Beschreib. p. 251 (1767) ; (Ridgway), p. 165 ; (Sharpe), Cat. B. Br. Mus. xxiv. p. 481 ; *Tot. canescens* (Gmel.), Syst. Nat. i. p. 668 (1788) ; Dresser, viii. p. 173, pl. 570 ; Saunders, p. 619 ; (Gould), B. of Gt. Brit. iv. pl. 53.

Chevalier gris, French ; *Andario*, *Picarot*, Span. ; *Pantana*, Ital. ; *Grünfüssiger-Wasserläufer*, German ; *Groenpootige Ruiter*, Dutch ; *Grönbenet-Klire*, Dan. ; *Glutsneppe*, Norweg. ; *Gluttsnäppa*, Swed. ; *Stuore-čavču*, Lapp. ; *Valkea Vikla*, Finn. ; *Bolchoi-Ulit*, Russ. ; *Tantanna*, Hindu. ; *Awo-ashi-chidori*, Jap.

♂ *ad.* (Scotland). Head, neck, and upper parts generally ashy grey, broadly striped with black ; quills blackish, the first primary only with the shaft white ; lower back, rump, and upper tail-coverts white, the last irregularly barred with grey ; middle tail-feathers bluish grey, the rest white, more or less barred ; under parts white, the throat and breast, not the chin, distinctly spotted with black, flanks barred ; bill recurved ; blackish ; legs and feet green ; iris brown. Culmen 2·3, wing 7·7, tail 3·8, tarsus 2·3 inch. Sexes alike. In winter the upper parts are paler grey with narrower stripes, the dorsal feathers with white margins, the throat and breast less distinctly marked with blackish, and the legs paler, more yellowish green.

Hab. Europe, north almost to the North Cape, breeding in the northern portion of its range, and south to the Scottish Highlands ; migrating in autumn and winter to Southern Europe and Africa, as far south as the Cape Colony ; Asia north to Kamchatka, east to Japan ; on migration and in winter occurring in Manchuria, Corea, China, Burma, India, and Ceylon, south to Australia ; of rare and accidental occurrence in Eastern America.

In habits it differs but little from the Redshank, but is more often seen by inland waters, and breeds often far inland, at some distance from water, and its cry is clearer and louder than that of the Redshank. Its nest is a mere depression in the ground, scantily lined with a few grass-bents, and the 4 eggs, which are usually deposited in May or June, are pale buffy white or stone-buff, with purplish brown shell-markings and bright dark brown surface blotches and spots, chiefly at the larger end, and measure about 1·91 by 1·33.

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1086. Nordmann's Greenshank.

TOTANUS GUTTIFER.

Totanus guttifer, Nordm., in Erman's Reise, p. 17 (1835); (Sharpe), Cat. B. Br. Mus. xxiv. p. 479; (Tacz.), F. O. Sib. O. p. 858; Blanf. F. Brit. Ind. Birds, iv. p. 267; *T. haughtoni*, Armstrong, Str. Feath. 1876, p. 344; Harting, Ibis, 1883, p. 133, pl. iv.

♂ *ad.* (Amoor River). Very like *T. glottis* but smaller, has the middle tail-feathers white marbled with brownish grey, the rest white with a subterminal dusky line, the breast only sparsely spotted, and the lower back, rump, under wing-coverts, and axillaries pure white; basal half of bill horny yellow, the rest blackish; feet ochreous yellow; iris dark brown. Culmen 2·3, wing 6·6, tail 2·7, tarsus 1·65 inch.

Hab. Kamchatka, and Eastern Siberia, wintering in South China, Burma, and India.

Is as yet but little known, and nothing is on record respecting its nidification. Owing to its resemblance to *T. glottis* it may have been overlooked, but it can be distinguished from that species, as well by its smaller size as by the palmation of the toes, which is more as in *Terekia*.

1087. Marsh-Sandpiper.

TOTANUS STAGNATILIS.

Totanus stagnatilis, Bechst. Orn. Taschenb. ii. p. 292; Naum. viii. p. 171, Taf. 202; Gould, B. of E. iv. pl. 314; Dresser, viii. p. 151, pl. 566; David and Oust. p. 463; Seebohm, B. Jap. Emp. p. 322; Sharpe, Cat. B. Br. Mus. xxiv. p. 422; Tacz. F. O. Sib. O. p. 864; Blanf. F. Brit. Ind. Birds, iv. p. 263.

Chevalier stagnatile, French; *Chorlito*, Span.; *Albastrello*, Ital.; *Teich-Wasserläufer*, German; *Prudovoi-Ulit*, Russ.; *Chota-gotra*, Hindu.

♂ *ad.* (Hungary). Upper parts greyish brown tinged with buff, mottled and streaked, except on the wing-coverts, with black; lower back, rump, and upper tail-coverts white, the last spotted and barred with black; middle tail-feathers greyish brown with darker bars, the rest chiefly white; quills brown, the secondaries externally margined with white; under parts white; the cheeks, ear-coverts, and upper breast minutely dark spotted; and the flanks irregularly barred; bill dark brown, but greenish at the base below; legs olivaceous; iris dark brown. Culmen 1·7, wing 5·3, tail 2·5, tarsus 2·0 inch. Sexes alike. In winter the upper parts are brownish grey, somewhat marked with white, the wing-coverts darker; under parts and axillaries pure white.

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Hab. Central and Southern Europe, chiefly in the eastern portions; a rare straggler to the north central parts of Europe, but has occurred in Heligoland; Africa in winter, as far south as the Orange River; Asia, east to Japan, north to Dauria; in winter ranging to Manchuria, Burma, India, Ceylon, the Malay Archipelago, and Australia.

In general appearance and habits it is a miniature Greenshank. It frequents inland ponds, rivers, and marshes, and is as a rule not a shy bird, but sprightly and elegant in its movements. It usually breeds near, but occasionally at some distance from water, in grassy places, its nest resembling that of its congeners, and its eggs, 4 in number, are usually laid in June or July, and are ochreous buff, sometimes with a faint olivaceous tinge, with pale purplish brown shell-markings and rich dark brown surface spots and blotches, and measure about 1·49 by 1·11.

1088. YELLOWSHANK.

TOTANUS FLAVIPES.

Totanus flavipes (Gmel.), Syst. Nat. i. p. 659 (1788); Dresser, ix. p. 377, pl. 715; Sharpe, Cat. B. Br. Mus. xxiv. p. 431; Ridgway, p. 166; Saunders, p. 613; Lilford, v. p. 116, pl. 50; Poynting, p. 215, pl. 45.

♂ *ad.* (Wisconsin). Crown, nape, and hind-neck blackish brown, streaked with white; upper parts blackish brown, clearly marked and spotted with white and buffy grey; upper tail-coverts white, barred with blackish; quills blackish brown, the shaft of the first white, of the rest brown; middle tail-feathers dark ashy grey, the rest white, all barred with blackish; under parts white, the sides of head, neck, and breast streaked with blackish, those on the lower neck and breast broader; flanks barred with blackish; the axillaries with ashy brown; bill greenish black; legs yellow; iris dark brown. Culmen 1·6, wing 6·2, tail 2·6, tarsus 2·0 inch. Sexes alike. In winter the upper parts are darker and the markings reduced to a few whitish spots; upper tail-coverts, chin, and upper throat nearly white; flanks less marked with greyish brown.

Hab. North America, from the Hudson's Bay Territory, and Alaska, where it breeds, to Patagonia in winter; has occurred in South Greenland, and is a rare straggler to England, where two authentic examples have been obtained.

In habits it does not differ from its allies. It breeds in the high north of America, the nest being a mere depression in the

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ground scantily lined with grass-bents or dead leaves, or else quite unlined. The eggs, 4 in number, are usually deposited late in May or early in June, and vary a good deal, having the ground-colour from light drab to dark clay-ochre, the shell-markings pale purplish grey, and the surface spots and blotches black or blackish brown. In size they measure about 1·78 by 1·13.

1089. Green Sandpiper.

TOTANUS OCHROPUS.

Totanus ochropus (Linn.), Syst. Nat. i. p. 250 (1766); Naum. viii. p. 50, Taf. 197; Gould, iv. pl. 315, fig. 1; id. B. of Gt. Brit. iv. pl. 56; Dresser, viii. p. 135, pl. 564; David and Oust. Ois. Chine, p. 465; Seebohm, B. Jap. Emp. p. 325; (Sharpe), Cat. B. Br. Mus. xxiv. p. 437; Tacz. F. O. Sib. O. p. 872; Blanf. F. Brit. Ind. Birds, iv. p. 262; Saunders, p. 609; Lilford, v. p. 105, pl. 46; Ridgway, p. 166; Poynting, p. 209, pl. 44.

Chevalier cul-blanc, French; *Lavandera grande, Cherlovita*, Span.; *Culbianco*, Ital.; *Punktirter-Wasserläufer*, German; *Witgatje*, Dutch; *Graabenet Klire*, Dan.; *Graabenet-Sneppe*, Norweg.; *Skogssnäppa*, Swed.; *Mustasiipi-vikla*, Finn.; *Tschernysch*, Russ.

♂ *ad.* (Spain). Crown, sides of head, and neck blackish brown, striped with white; upper parts blackish brown, tinged with metallic olivaceous and spotted with white; lower rump, upper tail-coverts, base of tail, and outermost tail-feathers white, rest of tail blackish brown, with three bars and the tips white; under parts white; the neck and flanks closely marked with blackish brown; axillaries brownish black with narrow white angular bars; bill blackish, tinged with grey at the base; legs lead-grey, washed with green on the joints; iris dark brown. Culmen 1·4, wing 5·4, tail 2·55, tarsus 1·33 inch. Sexes alike. In winter the upper parts are uniform greyish brown unspotted, and the crown and hind neck are ashy brown with a white streak above the eye.

Hab. Europe generally, north to the Arctic Circle but not in Lapland, breeding down to the north central portions, passing down to South Europe and Africa as far as the Cape Colony in winter; Asia, north to Kamchatka, east to Japan; south in winter to the Malay Archipelago; Corea; China; Burma, India, and Ceylon; of accidental occurrence in Nova Scotia.

Is generally to be found near inland ponds and streams, seldom on the coast, often at ponds in the woodlands. Its note is a clear loud *dlee-dlee-dlee*, uttered quickly, and its flight is swift and graceful. Like its allies it feeds on insects, larvæ, and

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worms. Its mode of breeding is absolutely peculiar, as it places its 4 eggs, in the latter half of May, in deserted nests of Thrushes, Blackbirds, Jays, and other birds, and even those of the Squirrel, almost always in the vicinity of a pond. The eggs vary in ground-colour from delicate greyish sea-green to greenish grey, and are marked with purplish grey shell blotches and dark brown surface spots, which are usually larger and more numerous at the larger end; in size they measure about 1·55 by 1·12.

1090. Solitary Sandpiper.

TOTANUS SOLITARIUS.

Totanus solitarius (Wilson), Amer. Orn. vii. p. 53, pl. 58, fig. 3 (1813); Dresser, ix. p. 373, pl. 714; (Sharpe), Cat. B. Br. Mus. xxiv. p. 444; Ridgway, p. 166; Saunders, p. 611; Lilford, v. p. 111, pl. 48; *Tot. chloropygius*, Vieill. Nouv. Dict. vi. p. 401 (1816).

♂ *ad.* (New Brunswick). Differs from *T. glareola* in having the rump and central tail-coverts and tail-feathers dark greenish brown, the rest of tail-feathers and lateral coverts white, barred with blackish; under wing-coverts and axillaries white, narrowly barred with greenish brown; bill dull greenish at base, otherwise blackish; legs dark greenish grey; iris brown. Culmen 1·35, wing 5·25, tail 2·3, tarsus 1·28 inch. Sexes alike. In winter the upper parts are greyer, the white spots less distinct, and the fore neck less distinctly streaked.

Hab. America, north to about 65° N. lat. in summer, and south to Argentina in winter; an accidental straggler to Britain, where three authenticated examples have been obtained.

In habits this bird resembles *T. glareola*, and in America frequents damp localities in the forest, and especially alder swamps. Its nest and eggs are as yet unknown.

1091. Wood-Sandpiper.

TOTANUS GLAREOLA.

Totanus glareola (Gmel.), Syst. Nat. i. p. 677 (1788); Naum. viii. p. 78, Taf. 198; Hewitson, ii. p. 330, pl. xc. fig. 1; Gould, B. of E. iv. pl. 315, fig. 2; id. B. of Gt. Brit. iv. pl. 57; Dresser, viii. p. 143, pl. 565; David and Oust. Ois. Chine, p. 464; Seebohm, B. Jap. Emp. p. 324; (Sharpe), Cat. B. Br. Mus. xxiv. p. 491; Tacz. F. O. Sib. O. p. 874; Blanf. F. Brit. Ind. Birds, iv. p. 261; Ridgway, p. 166; Saunders, p. 607; Lilford, v. p. 109, pl. 47; Poynting, p. 203, pl. 43.

Chevalier sylvain, French; *Carregadet*, Span.; *Piro-piro-boscareccio*, Ital.; *Bruch-Wasserläufer*, German; *Boschruiter*,

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Dutch; *Kjærsneppe*, Dan.; *Grönbenet-Sneppe*, Norweg.; *Grönbena*, Swed.; *Ucca-čavču*, Lapp.; *Lire*, *Suovikla*, Finn.; *Travnik*, *Bolotney-Kulik*, Russ.; *Chupka*, *Tútwari*, Hindu.

♂ *ad.* (Finland). Crown, nape, and hind neck blackish brown finely striped with white; a white streak over the eye- and ear-coverts, and a blackish brown one from the base of the bill to the eye; upper parts blackish brown with a greenish tinge, spotted with white and greyish buff; upper tail-coverts white; middle tail-feathers like the back, but barred with buffy grey and white, the rest white barred with blackish brown; shaft of first quill only white; chin white; sides of head, neck, and breast washed with buffy grey, and striped, the breast and flanks more boldly, with blackish brown angular bars; rest of under parts white, the axillaries marked with brown; bill black; the base of lower mandible olive-greenish; legs greenish ochreous; iris dark brown. Culmen 1·25, wing 4·9, tail 2·15, tarsus 1·45 inch. Sexes alike. In winter the pale margins are broader on the upper parts, which are paler than in summer, and the throat, neck, and flanks are less marked with brown, but the two former are more washed with buffy grey.

Hab. Europe generally, north far into Lapland; and in winter migrating down to South Africa; Asia, north to Kamchatka, east to Japan, south to Corea and China, passing down to Burma, India, Ceylon, the Malay Archipelago, and Australia in winter.

Is more particularly an inland marsh-frequenting species, and is also often seen in damp wooded localities. Its call-note is a very clear, loud whistle, and in the pairing season it utters a succession of notes, *leero*, *leero*, *leero*, *teeleedl*, *teeleedl*, *teeleedl*, uttered several times in succession. It breeds in open, marshy, grass-covered localities, the nest being a depression in an elevated patch scantily lined, and the 4 eggs, which are usually laid in May, or early in June, vary in ground-colour from stone-grey to stone-ochre, with purplish grey shell-markings, and reddish brown or dark brown surface spots and blotches, and in size measure about 1·41 by 1·06.

1092. Summer-Snipe.

TOTANUS HYPOLEUCUS.

Totanus hypoleucus (Linn.), Syst. Nat. i. p. 250 (1766); Naum. viii. p. 7, Taf. 194; Hewitson, ii. p. 333, pl. xc. fig. 2; Gould, B. of E. iv. pl. 316; id. B. of Gt. Brit. iv. pl. 58; Dresser, viii. p. 127, pl. 563; (David and Oust.) Ois. Chine, p. 467; Seebohm, B. Jap. Emp. p. 326; (Sharpe), Cat. B. Br. Mus. xxiv. p. 456; (Tacz.), F. O. Sib. O. p. 882; Blanf. F. Brit. Ind. Birds, iv. p. 260; (Ridgway), p. 170; Saunders, p. 605; Lilford, v. p. 103, pl. 45, Poynting, p. 193, pl. 41.

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Chevalier guignette, French; *Maçarico das rochas*, Portug.; *Lavandera chica*, *Siseta*, Span.; *Piro-piro-piccolo*, Ital.; *Fluss Uferläufer*, German; *Oeverlooper*, *Steenvink*, Dutch; *Muddersneppe*, Dan.; *Strandsnipe*, Norweg.; *Drillsnäppa*, Swed.; *Libik*, Lapp.; *Ranta-siippi*, *Koska-siippi*, Finn.; *Beregovnik*, Russ.

♂ *ad.* (N. Russia). Upper parts bronzy olivaceous brown, the crown, hind neck, and back, wing-coverts, scapulars, and upper tail-coverts barred and narrowly striped with blackish; primaries blackish, the secondaries with a broad basal band and tips white; middle tail-feathers like the back, the rest white, barred with blackish; chin and a streak over the eye white; sides of neck and breast pale ashy grey, striped with blackish; rest of under parts white; base of bill dull fleshy, the rest dark brown; legs grey, tinged with green; iris dark brown. Culmen 1·1, wing 4·5, tail 2·55, tarsus 1·0 inch. Sexes alike. In winter the upper parts are more uniform and less marked with black; the throat and breast greyer, and striped less distinctly. The young have the feathers on the upper parts tipped with brownish ochreous and narrowly barred with black.

Hab. The whole of Europe from the Arctic Ocean to the Mediterranean, breeding almost everywhere; Africa, in winter south to the Cape Colony; Asia generally, north to Kamchatka; Japan, Corea, Mongolia, Manchuria, China, Burma, India; in winter migrating south to Australia.

Frequents inland streams, ponds, and lakes, and is not often seen on the sea coast, nor does it collect in flocks, but is seen singly or in pairs, and affects places where the shores of the lakes or banks are wooded or covered more or less with bushes, and is as a rule shy and wary. Its note is a shrill *di*, *di*, *di*, its flight is rapid but wavering, and it frequently nods its head, and jerks its tail when tripping along. It breeds in unfrequented places near water, often on a river bank or sometimes in willow thickets, its nest being a mere depression scantily lined with a few grass blades, and its 4 eggs, which are usually deposited in May, vary from creamy white to warm stone-buff in ground-colour, the surface markings from dull red to brownish red, and the shell spots are purplish grey. In size they measure about 1·42 by 1·04.

1093. Spotted Sandpiper.

TOTANUS MACULARIUS.

Totanus macularius (Linn.), Syst. Nat. i. p. 249 (1766); Wilson, Am. Orn. vii. p. 60, pl. 59, fig. 1; Hewitson, ii. p. 335, pl. xc. fig. 3; Gould, B. of E. iv. pl. 317; id. B. of Gt. Brit. iv. pl. 59; (Naum.), viii. p. 34, Taf. 195; Dresser, ix. p. 367, pl. 713; (Sharpe), Cat. B. Br. Mus. xxiv. p. 468; Saunders, p. 605*; Ridgway, p. 170; Poynting, p. 199, pl. 42.

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♂ *ad.* (Washington). Differs from *T. hypoleucus* in having the upper parts more boldly marked with blackish brown, the breast thickly, and the rest of the under parts more sparsely spotted with brownish black; base of bill fleshy pink, the rest dusky brown; legs pale pink; iris brown. Culmen 1·10, wing 4·4, tail 2·1, tarsus 1·05 inch. Sexes alike. In winter the upper parts are olivaceous brown, without the bold dark markings; wing-coverts barred with blackish; under parts white; the sides of lower neck washed with pale ashy brown. The young bird has all the secondaries barred with ashy brown, whereas in that of *T. hypoleucus* the 8th and 9th are nearly white.

Hab. North America generally, migrating in winter south to Brazil; of rare and doubtful occurrence in Britain, but of still more doubtful occurrence elsewhere in Europe.

In habits and nidification it closely resembles *T. hypoleucus*, but its eggs are different, being creamy drab or creamy ochreous in ground-colour, the underlying shell-markings of an indistinct neutral tint, and the surface spots and blotches rich dark brown. In size they measure about 1·22 by 0·93.

1094. Grey-rumped Sandpiper.

TOTANUS BREVIPES.

Totanus brevipes, Vieill. Nouv. Dict. vi. p. 410 (1816); (Sharpe), Cat. B. Br. Mus. xxiv. p. 449; (Tacz.), F. O. Sib. O. p. 877; Ridgway, p. 168; *T. pulverulentus*, Müll. Naturk. Verh. Land en Volkenk. p. 152 (1829–44); Temm. and Schlegel, Faun. Jap. Aves, p. 109, pl. 65; *T. griseopygius*, Gould, P.Z.S. 1848, p. 39; id. B. of Austral. vi. pl. 38; *T. incanus* (nec. Gmel.), David and Oust. Ois. Chine, p. 466; Seebohm, B. Jap. Emp. p. 323.

♂ *ad.* (Japan). Upper parts almost uniform ashy grey, the rump, upper tail-coverts, and middle tail-feathers bluer, the remaining tail-feathers pale ashy grey; a narrow line over the forehead to behind the eye white, slightly marked with slaty black; chin white; neck striped; the breast and upper flanks narrowly barred with slaty blackish; rest of under parts white; bill brown; legs ochreous yellow; iris dark brown. Culmen 1·6, wing 6·55, tail 3·0, tarsus 1·4 inch. Sexes alike. In winter many of the feathers on the upper parts are narrowly margined with dull white; the sides of the head, neck, face, breast, and upper flanks ashy grey unbarred.

Hab. Kamchatka, Eastern Siberia, and Japan, migrating south for the winter to China, the Malay Archipelago, the Papuan Islands, and Australia.

Nothing appears to be on record respecting the habits or nidification of this species.

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1095. Wandering Sandpiper.

TOTANUS INCANUS.

Totanus incanus, Gmel. Syst. Nat. i. 658 (1788); Sharpe, Cat. B. Br. Mus. xxiv. p. 453; (Tacz.), F. O. Sib. O. p. 880; (Ridgway), p. 168.

♂ *ad.* (Bering Is.). Differs from *T. brevipes* in having the neck darker and more boldly striped, and the under parts generally, including the under tail-coverts, but not the middle of the abdomen, boldly and broadly barred with blackish slate; bill and feet dull greenish; iris brown. Culmen 1·7, wing 6·7, tail 3·0, tarsus 1·3 inch. In winter the sides of the neck and of the breast and flanks are dull slate grey, the middle of the breast, sides of abdomen, and under tail-coverts narrowly barred with slaty blackish; middle of abdomen white.

Hab. The Pacific coasts of North America from the Galàpagos and Lower California to the Aleutian Islands, Norton Sound and Alaska; the Commander Islands, Kamchatka, the Chukchi Peninsula; in winter migrating to the Sandwich Islands and throughout Oceania to the New Hebrides.

Is said to be numerous on the rocky shores of all the islands of Bering Sea, and when disturbed on their feeding-grounds show but little alarm. Their note is a loud ringing whistle, which they utter when they take flight. This species may be distinguished from *T. brevipes* in all plumages by having the nasal groove extending to within the terminal third of the upper mandible, whereas in *T. brevipes* it scarcely extends beyond the half, and the tarsus is usually reticulated behind and not plated. Nothing appears to be known respecting the nidification of this species.

TEREKIA, Bonap., 1838.

1096. Terek Sandpiper.

TEREKIA CINEREA.

Terekia cinerea (Güld.), Nov. Comm. Petrop. xix. p. 473, tab. 19 (1774), (Naum.), xiii. p. 248, Taf. 386, fig. 3; Gould, B. of Austral. vi. pl. 34; Dresser, viii. p. 195, pl. 572; David and Oust. Ois. Chine, p. 460; Sharpe, Cat. B. Br. Mus. xxiv. p. 474; Tacz. F. O. Sib. O. p. 856; Blanf. F. Brit. Ind. Birds, iv. p. 258; *Scolopax terek*, Lath. Ind. Orn. ii. p. 724 (1790); (Gould), B. of E. iv. pl. 307; (Seebohm), B. Jap. Emp. p. 326.

Morodunka, Russ.

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♂ *ad.* (Archangel). Upper parts grey lined with blackish, and a distinct black line along each side of the middle of the back; least wing-coverts and quills black, the latter washed with grey, the secondaries and inner primaries tipped with white; tail grey with a faint coppery gloss; under parts white; the sides of the head, neck, and breast striped with greyish brown, the last tinged with grey; bill curved upwards, blackish, with the base of lower mandible greenish yellow; legs pale yellowish green; iris blackish grey. Culmen 1·8, wing 5·3, tail 2·4, tarsus 1·05 inch. Sexes alike. In winter the upper parts lack the black, it being only faintly indicated, and the under parts are white, the sides of neck and breast washed with grey, and the sides of the head streaked with grey.

Hab. Northern Russia, having only once been recorded from so far west as Finland; of rare occurrence in Germany and Italy; migrating south through Eastern Europe to South Africa; Northern Siberia, migrating south through Japan, China, and India to Australia in winter.

By many authors the present species has been united to the Godwits, but it is essentially a Sandpiper, in habits most nearly resembling *T. hypoleucus*, and its call-note is a clear, loud, musical whistle. It frequents river banks and the shores of small lakes and ponds, and feeds on worms, insects, &c., like the Sandpipers. Its nest, which is a mere depression in the ground, is usually situated in open places near bushes, and its 4 eggs, which are usually deposited in June, are dull buff with purplish grey shell-, and purplish brown surface-spots and blotches, and measure about 1·53 by 1·7.

MACRORHAMPHUS, Leach, 1816.

1097. Red-breasted Snipe.

MACRORHAMPHUS GRISEUS.

Macrorhamphus griseus (Gmel.), Syst. Nat. i. p. 658 (1788); Gould, B. of E. iv. p. 323; id. B. of Gt. Brit. iv. pl. 76; Dresser, viii. p. 187, pl. 571; Sharpe, Cat. B. Br. Mus. xxiv. p. 394; Tacz. F. O. Sib. O. p. 951; Ridgway, p. 151; Seebohm, B. Jap. Emp. p. 330; Saunders, p. 621; Lilford, v. p. 71, pl. 29; Poynting, p. 123, pl. 27; *M. noveboracensis* (Gmel.), ut supra; Wilson, Am. Orn. vii. p. 45, pl. 58, fig. 1; *M. scolopaceus*, Lawr. Ann. Lyc. New York, v. p. 4, pl. 1 (1852); Ridgway, p. 151.

♂ *ad.* (N. America). Crown, nape, and upper parts varied black and rusty rufous; rump and upper tail-coverts white, tinged with rufous and barred with black; quills blackish, the short secondaries and larger wing-coverts dark grey, margined and tipped with white; tail broadly barred

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with black, the middle feathers rusty ochreous, the rest white; sides of head, throat, and under parts rusty red, paler on the lower abdomen; sides of neck and upper flanks spotted, lower flanks and under tail-coverts barred with black; under wing-coverts and axillaries white, barred with blackish grey; bill blackish brown; legs pale olivaceous; iris brown. Culmen 2·35, wing 5·7, tail 2·45, tarsus 1·4 inch. Sexes alike. In winter the crown, nape, and upper parts are dull ashy grey, the back slightly marked with blackish; lower back nearly white; no trace of rufous in the plumage; under parts white, the neck and breast clouded, and the flanks and under tail-coverts barred with ashy grey.

Hab. North America, breeding in the high north, wintering in Central and South America; of rare occurrence in S. Greenland; Britain, frequently in France, and twice in Denmark; the Chukchi Peninsula in N.E. Siberia, and has been twice obtained in Japan.

In habits it resembles the Sandpipers and Godwits, and has nothing in common with the Snipes except its bill. In winter and on passage it collects in flocks, and frequents marshy localities and mud-flats, feeding on worms and insects of various kinds. It breeds in Arctic America in June, the nest being a depression in the ground, usually in a grassy hummock in marshy places, the lining being merely a few dry leaves. The 4 eggs vary in ground-colour from clay-olive to greyish ochreous, and the markings, which are collected chiefly at the larger end, are dark umber-brown. In size they measure about 1·75 by 1·22.

1098. Semipalmated Snipe.

MACRORHAMPHUS SEMIPALMATUS.

Macrorhamphus semipalmatus, Jerdon: Blyth, J. A. Soc. Beng. xvii. p. 252 (1848); (David and Oust.), Ois. Chine, p. 474, pl. 121; (Tacz.), F. O. Sib. O. p. 936; Blanf. F. Brit. Ind. Birds, iv. p. 257; Ridgway, p. 151; *M. taczanowskii* (Verreaux), Rev. and Mag. 1860, p. 206, pl. 14; Sharpe, Cat. B. Br. Mus. xxiv. p. 400.

♂ *ad.* (Dauria). Differs from *M. griseus* in being larger, in having the lower back, rump, and upper tail-coverts closely marked and barred with blackish brown; the under parts more uniform rufous, unspotted on the throat and breast, and the under wing-coverts white, unbarred; beak and legs black; iris dark brown. Culmen 3·03, wing 6·68, tail 3·0, tarsus 1·97 inch. In winter dress it may be distinguished by the barred rump, &c., the unbarred axillaries and under wing-coverts, and the flanks and under tail-coverts less barred. In general appearance and size it resembles *L. lapponica*, being very Godwit-like, but is readily distinguishable by its barred rump and snipe-like bill.

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Hab. Eastern Siberia (Irkutsk and Dauria); Mongolia and China in winter; has also been obtained in Burma and near Calcutta in winter.

Is said to frequent the marshy shores of large rivers in Dauria, but I find nothing on record respecting its habits, which are probably similar to those of *M. griseus*. Its nest and eggs are unknown.

LIMOSA, Briss., 1760.

1099. Bar-tailed Godwit.

LIMOSA LAPPONICA.

Limosa lapponica (Linn.), Syst. Nat. i. p. 246 (1766); Dresser, viii. p. 203, pls. 573 figs. 1, 2, 574 fig. 2; Sharpe, Cat. B. Br. Mus. xxiv. p. 373; Tacz. F. O. Sib. O. p. 932; Blanf. F. Brit. Ind. Birds, iv. p. 256; Ridgway, p. 163; Saunders, p. 623; Lilford, v. p. 129, pl. 56; Poynting, p. 231, pl. 49; *L. ægocephala*, Linn. Syst. Nat. i. p. 246 (1766); *L. meyeri*, Leisl. Nachtrag. Bechst. Naturg. ii. p. 172 (1811–15); Naum. viii. p. 428, Taf. 214; *L. rufa*, Temm. Man. d'Orn. ii. p. 668 (1820); Gould, B. of E. iv. pl. 306; id. B. of Gt. Brit. iv. pl. 51; Hewitson, ii. p. 343, pl. xciv.

Barge rousse, French; *Parda*, Portug.; *Tetol*, Span.; *Pittima minore*, Ital.; *Rostrothe-Uferschnepfe*, German; *Rosse-Grutto*, Dutch; *Rödbrun-Kobbersneppe*, Dan.; *Rödspove*, Norweg.; *Myrspofv, Roströd-Långnäbba*, Swed.; *Kydi*, Lapp.; *Puna-Kuovi*, Finn.; *Krasnöi-sookalen*, Russ.; *Kojaku-chidori*, Jap.

♂ *ad.* (Pagham). Crown, nape, and upper parts blackish brown, margined with rust-red; rump white with narrow brown lines; upper tail-coverts white, washed with rufous and marked with dark brown; tail similar but broadly barred with dark brown and tipped with white; primary quills blackish brown; secondaries dark grey margined with white, the inner ones darker and marked with rufous; sides of head, neck, and under parts rich ferruginous; the lores, auriculum, and sides of neck lined with black; lower abdomen washed, and under tail-coverts marked with white, the latter spotted with brown; under wing-coverts white with dark central lines and submargins; axillaries white banded with blackish; bill reddish yellow at base, otherwise blackish; legs black, iris brown. Culmen 3·5, wing 8·4, tail 2·7, tarsus 2·2 inch. Female larger and less rufous. In winter the upper parts are ashy brown with dark shafts and paler margins to the feathers; lower back and rump white with a few dark markings; lower parts white marked with brown on the fore neck and upper breast.

Hab. Northern Europe into Lapland, and Asia, east to the Yenesei valley; in autumn migrating south to South Europe,

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and Africa south to Senegambia; Canaries; Asia, south to Sind in winter; Great Britain in spring, autumn, and winter.

Frequents estuaries, mud-flats, and the sea shore, and is usually seen in company with other waders. Its flight is light and buoyant, and its note a loud shrill whistle. Its food consists of worms, aquatic insects, and crustaceans, in search of which it may be seen probing the mud and sands. It breeds in the interior of Lapland, not further west than the Torneå valley, and as far east as the Yenesei, its nest being a mere depression in the ground, or on a tussock, and the eggs, 4 in number, are usually deposited in May, and are light olive-green, marked, chiefly at the larger end, with dark brown, and measure about 2·0 by 1·49.

1100. Subsp. Limosa baueri.

Limosa baueri, Naum. Vög. Deutschl. viii. p. 429 (1836); David and Oust. Ois. Chine, p. 459; Tacz. F. O. Sib. O. p. 933; Ridgway, p. 163; *L. novæ-zealandiæ*, Gray, Gen. of B. iii. p. 570 (1847); Sharpe, Cat. B. Br. Mus. xxiv. p. 377; *L. uropygialis*, Gould, P.Z.S. 1848, p. 38; id. B. of Austr. vi. pl. 29; Seebohm, B. Jap. Emp. p. 329.

Veretennic, Russ.

♂ *ad.* (Japan). Differs from *L. lapponica* in summer in having the red portion of the plumage paler, the lower back and rump blackish with white margins, and the axillaries distinctly barred with brown. Culmen 3·15, wing 8·74, tail 2·95, tarsus, 2·16 inch. In winter it can always be recognised by the dark rump and barred axillaries.

Hab. Alaska; Eastern Siberia; the Commander Islands; Mongolia; Japan; Corea; migrating to S. China, the Malay Archipelago, Oceania, Australia, and New Zealand in winter.

In general habits it does not differ from *L. lapponica*. It breeds in the Lake Hanka district in Mongolia, and in Alaska, its nest being a rounded depression in a tussock, lined with dry grass, and its 2 eggs, which are described as being light olivaceous, spotted with dark brown, but sometimes nearly uniform, in size measure about 2·20 by 1·42.

1101. Black-tailed Godwit.

LIMOSA BELGICA.

Limosa belgica (Gmel.), Syst. Nat. i. p. 663 (1788); Blanf. F. Brit. Ind. Birds, iv. p. 254; Saunders, p. 625; Poynting, p. 235, pl. 50; *L. limosa* (Linn.), Syst. Nat. i. p. 245 (1766); Sharpe, Cat. B Br.

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Mus. xxiv. p. 381 ; Ridgway, p. 164 ; *L. melanura*, Leisl. Nachtr. Bechst. Naturg. ii. p. 153 (1813) ; Naum. viii. p. 406, Taf. 212, 213 ; Gould, B. of E. iv. pl. 305 ; id. B. of Gt. Brit. iv. pl. 50 ; Hewitson, ii. p. 342, pl. xciii. ; Seebohm, B. Jap. Emp. p. 329 ; *L. melanuroides*, Gould, P.Z.S. 1846, p. 84 ; id. B. of Austral. vi. pl. 28 ; *L. brevipes* (nec. Gray), Schlegel, Mus. Pays-Bas, *Scolopaces*, p. 21 (1864) ; David and Oust. Ois. Chine, p. 460 ; Tacz. F. O. Sib. O. p. 929 ; *L. ægocephala* (nec. Linn.), Dresser, viii. p. 211, pl. 574 ; Lilford, v. p. 125, pl. 55.

Barge à queue noire, French ; *Abujeta, Sarseruelo*, Span. ; *Maçarico gallego, Parda*, Portug. ; *Pittima*, Ital. ; *Schwarzschwänziger-Uferschnepfe*, German ; *Grütto, Schries*, Dutch ; *Jardreka*, Icel. ; *Sorthalet-Rödspove*, Norweg. ; *Sorthalet-Kobbersneppe*, Dan. ; *Rödspof*, Swed. ; *Evdoshka, Veretennik*, Russ. ; *Gudera*, Hindu. ; *Sorihashi-chidori*, Jap.

♂ *ad.* (England). Head, neck, and breast rusty red, the crown and nape striped with black ; upper parts barred black and rusty red ; lower back and rump blackish ; upper tail-coverts white ; tail black, the middle feathers tipped with grey, the outermost white on the basal half ; quills blackish, the inner primaries and secondaries white at base ; wing-coverts earthy grey, the larger with broad white tips ; breast indistinctly barred with black ; under parts white, irregularly barred with black and rufous, the flanks washed with rufous ; axillaries and under wing-coverts white ; beak blackish brown, orange at the base ; legs blackish ; iris brown. Culmen 3·9, wing 8·0, tail 3·6, tarsus 2·8 inch. Female larger and duller coloured. In winter the plumage lacks all red, the upper parts are earthy grey, the throat, neck, and upper breast pale earthy grey, the rest of the under parts white.

Hab. Europe generally, a regular visitor to Iceland, where it breeds ; accidental in Greenland ; wintering in South Europe and Africa, south to Abyssinia ; Asia, east to Japan, north to Kamchatka ; Mongolia, Corea, Manchuria ; China, Burma, India, the Malay Archipelago, and Australia in winter ; formerly breeding in England and abundantly in the Netherlands.

Frequents marshy and damp localities, and in winter the sea coasts, and feeds on worms, insects, snails, larvæ, &c. Its note is a clear *tu-ee-tooo*, oft repeated, and when alarmed it utters a clamorous wail, *grutto, grutto*. The nest is a mere depression in the moss, and the 4 eggs, which are usually deposited in May, are dull greenish indistinctly marked with dark brownish olive, and in size measure about 2·13 by 1·46.

Birds from East Asia are as a rule rather smaller than European ones.

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NUMENIUS, Briss., 1760.

1102. Eskimo Curlew.

NUMENIUS BOREALIS.

Numenius borealis (Forster), Phil. Trans. lxii. p. 411 (1772); Audub. B. Am. pl. 208; Newton, P.Z.S. 1871, pl. iv. fig. 1 (egg); Dresser, viii. p. 221, pl. 575; Sharpe, Cat. B. Br. Mus. xxiv. p. 368; Ridgway, p. 171; Saunders, p. 631; Lilford, v. p. 137, pl. 59; Poynting, p. 253, pl. 54.

♂ *ad.* (N. America). Crown, nape, and upper parts umber-brown, marked with dull isabelline, and in parts washed with pale rufous; quills dark earth-brown, the shafts white; upper wing-coverts margined with greyish brown; tail dull rufous brown, barred with umber-brown; sides of face white striped with brown; a dark line through and behind the eye; throat white; rest of under parts pale rufous buff, the middle of the abdomen nearly white; breast with V-shaped brown markings; flanks rufous, similarly marked; under wing-coverts and axillaries rich rufous barred with blackish brown; under tail coverts rufous buff, similarly barred; beak brownish black; base of lower mandible yellowish flesh; legs greenish brown; iris blackish brown. Culmen 2·4, wing 8·0, tail 3·4, tarsus 1·8 inch. Female similar.

Hab. North America, north to within the Arctic Circle, migrating south in the winter through Central America to the southern parts of South America; of rare and accidental occurrence in Greenland and Britain.

Frequents not only the sea coasts but is frequently to be met with inland, and on migration and in winter is found in large flocks. It feeds on insects and molluscs, and is also said to be partial to crowberries. It breeds in the barren grounds in Arctic North America, the nest being a mere hollow in the ground lined with a few decayed leaves, and the eggs, which are laid late in June or early in July, vary in ground-colour from pale ashy green to ochreous drab, and deep olivaceous drab, and the markings and blotches are of various shades of sepia, usually more numerous at the larger end. In size they measure about 2·0 by 1·45.

1103. Little Whimbrel.

NUMENIUS MINUTUS.

Numenius minutus, Gould, P.Z.S. 1840, p. 176; id. B. of Austral. vi. pl. 44; David and Oust. Ois. Chine, p. 458; Seebohm, B. Jap. Emp. p. 317; (Sharpe), Cat. B. Br. Mus. xxiv. p. 371; Tacz. F. O. Sib. O. p. 947; *N. minor* (nec. Leach), Dresser, viii. p. 245.

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♂ *ad.* (China). Differs from *N. borealis* in having the upper parts conspicuously mottled with warm sandy buff; the sides of the head, mesial line, and under parts rufous isabelline or sandy buff; lower throat and neck streaked, and flanks barred with dusky brownish; under wing-coverts and axillaries rufous isabelline, barred with dusky brown; bill blackish brown, the base of lower mandible flesh-coloured; legs grey; iris dark brown. Culmen 2·0, wing 7·3, tail 3·0, tarsus 1·8 inch.

Hab. Eastern Siberia and Mongolia; Japan and China; the Moluccas and Australia on passage and in winter.

Nothing seems to be on record respecting the habits of this bird, which evidently breeds in Eastern Siberia, not far north of Dauria, but its nest and eggs are as yet unknown.

1104. WHIMBREL.

NUMENIUS PHÆOPUS.

Numenius phæopus (Linn.), Syst. Nat. i. p. 243 (1766); Naum. viii. p. 506, Taf. 217; Hewitson, ii. p. 324, pl. lxxxvii. fig. 1; Gould, B. of E. iv. pl. 303; id. B. of Gt. Brit. iv. pl. 49; Dresser, viii. p. 227, pl. 576; Sharpe, Cat. B. Br. Mus. xxiv. p. 356; Blanf. F. Brit. Ind. Birds, iv. p. 253; Ridgway, p. 171; Saunders, p. 629; Lilford, v. p. 135, pl. 58; Poynting, p. 249, pl. 53.

Courlis, French; *Maçarico gallego*, Portug.; *Zarapito, Serranct*, Span.; *Chiurletto*, Ital.; *Regen-brachvogel*, German; *Regenwulf*, Dutch; *Spói*, Icel.; *Lille-Regnspove*, Dan.; *Smaaspov*, Norweg.; *Småspofv*, Swed.; *Kúskastak*, Lapp.; *Pieni-Kuovi*, Finn.; *Malyi-Kronschnep, Kulik*, Russ.; *Chota-Goungh*, Hindu.

♂ *ad.* (Sussex). Crown and nape dark brown with a mesial and two superciliary lines to the nape dull white; upper parts dark brown with indistinct greyish brown margins; hind neck dull white streaked with brown; rump and upper tail-coverts white, the latter spotted and barred with dusky; tail brownish grey, barred with dark brown and tipped with white; quills blackish brown, the shafts white; wing-coverts dusky brown spotted with dull white; under parts white; the sides of head, neck, breast, and flanks streaked with brown; under wing-coverts and axillaries white, barred with brown; bill black, the base of lower mandible pale brown; legs light greyish blue; iris brown. Culmen 3·0, wing 9·3, tail 4·0, tarsus 2·3 inch. Female similar but larger.

Hab. Europe generally, north to Iceland, Greenland, and Lapland, migrating through Southern Europe to South Africa and Madagascar, Azores, Canaries, and Madeira for the winter; Asia, east to India and Burma, south to the Malay Archipelago.

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In habits it resembles the Curlew. In the autumn and spring it is usually seen on our coasts or on pasture lands near the sea in small bands or flocks, and feeds on small shell-fish, insects, and crustaceans. Its note is a trilling *tetty, tetty, tetty, tet* quickly repeated. It breeds in the Færoes, Northern Scandinavia, and Iceland, its nest being a depression on some slightly elevated and dry spot in the marshes, scantily lined with a few dead leaves or grass-bents, and its 4 eggs, which are usually deposited late in May or early in June, vary in colour from olive-brown to dark greenish brown, and are clouded and blotched, chiefly at the larger end, with dark umber-brown, but occasionally they are unmarked. In size they average 2·29 by 1·60.

1105. Subsp. Numenius variegatus.

Numenius variegatus (Scopoli), Del. Flor. et Faun. Insubr. ii. p. 92 (1786); Seebohm, B. Jap. Emp. p. 317; Sharpe, Cat. B. Br. Mus. xxiv. p. 361; Tacz. F. O. Sib. O. p. 943; *N. uropygialis*, Gould, P.Z.S. 1840, p. 175; id. B. of Austral. vi. pl. 43.

Ko-shaku-shigi, Jap.

♂ *ad.* (Japan). Differs from *N. phæopus* in having the lower back and rump boldly marked with brown, and the axillaries more broadly and closely barred. Culmen 3·2, wing 8·9, tail 3·78, tarsus 2·2 inch.

Hab. Eastern Siberia, north to Kamchatka; Japan, Corea, and China; migrating south through the Malay Archipelago to Australia for the winter.

In habits it does not appear to differ from *N. phæopus*, but its nest and eggs seem to be unknown.

1106. Slender-billed Curlew.

NUMENIUS TENUIROSTRIS.

Numenius tenuirostris, Vieill. Nouv. Dict. viii. p. 302 (1817); Naum. viii. p. 527, Taf. 218; Dresser, viii. p. 237, pl. 577; Sharpe, Cat. B. Br. Mus. xxiv. p. 348.

Courlis à bec grêle, French; *Zarapito*, Span.; *Chiurlotello* Ital.; *Dünnschnabliger Brachvogel*, German.

♂ *ad.* (Malta). Differs from *N. arquatus* in being much smaller, the hind neck greyish white streaked with rufous brown; lower back, rump, and upper tail-coverts pure white, the latter marked with fine brown lines;

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lores, eye-streak, cheeks, and ear-coverts white marked with fine lines and specks of black; throat pure white; under parts white, the lower throat and breast with central brown streaks, the sides of the breast with large pear-shaped spots; under wing-coverts and axillaries pure white; bill brown, the base of lower mandible flesh-coloured; legs plumbeous grey; iris brown. Culmen 2·75, wing 9·3, tail 3·8, tarsus 2·1 inch. Sexes alike.

Hab. Southern Europe, of rare occurrence in Central Europe but has been obtained in Holland, Belgium, and France; North Africa, ranging south to Khartoum; to the east it is found in Transcaspia, where it probably breeds.

In habits this Curlew is said to differ from *N. arquatus* in frequenting marshy localities and often wading up to the belly in water. Respecting its nidification nothing definite appears to be known.

1107. Common Curlew.

NUMENIUS ARQUATUS.

Numenius arquatus (Linn.), Syst. Nat. i. p. 242 (1766); Naum. viii. p. 478, Taf. 216; Hewitson, ii. p. 322, pl. lxxvii. fig. 2; Gould, B. of E. iv. pl. 302; id. B. of Gt. Brit. iv. pl. 48; Dresser, viii. p. 243, pl. 578; Seebohm, B. Jap. Emp. p. 314; Sharpe, Cat. B. Br. Mus. xxiv. p. 341; Tacz. F. O. Sib. O. p. 938; Blanf. F. Brit. Ind. Birds, iv. p. 252; Saunders, p. 629; Lilford, v. p. 131, pl. 57; Poynting, p. 243, pls. 51, 52; *N. lineatus*, Cuv. Règne Anim. i. p. 521 (1829); David and Oust. Ois. Chine, p. 457.

Courlis, French; *Maçarico real*, Portug.; *Zarapito real*, Span.; *Chiurlo*, Ital.; *Grosser Brachvogel*, German; *Wulp*, Dutch; *Stor-Regnspove*, Dan.; *Stor-Spove*, Norweg.; *Storspof*, Swed.; *Iso-kuovi*, Finn.; *Kulik-kotrous*, *Bolschoi-Kronschnep*, Russ.; *Goar-Goungh*, Hindu.

♂ *ad.* (Sweden). Upper parts, head, and neck blackish brown with dirty white and pale fulvous margins to the feathers, some tinged with rufous; lower back and rump white with a few scattered drop-shaped spots; upper tail-coverts white slightly barred with brown and marked with rufous; tail white barred with blackish brown, the middle feathers tinged with ashy grey; quills blackish brown; shafts of outer ones white; chin, upper throat, and region round the eye white; rest of under parts white, the neck, breast, abdomen, and under tail-coverts narrowly, the flanks boldly striped with blackish brown; under wing-coverts and axillaries mottled or more or less barred with brown; bill dull fleshy at base, otherwise dark brown; legs plumbeous grey; iris brown. Culmen 5·0, wing 11·6, tail 4·9, tarsus 3·0 inch. Female similar.

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Hab. Europe generally, north nearly to the Arctic Circle in summer; on migration and in winter south to the Cape Colony in South Africa; Madagascar; Asia, east to Dauria, and has occurred in Japan; Mongolia; China; Burma, India, Ceylon, the Andamans, Nicobars, and Laccadives in winter.

Frequents moors and open plains during the summer and open flats on the coasts in winter, and is one of the most cautious and wary birds. It feeds on worms, snails, insects of various kinds, and berries, and in winter on marine animals and crustaceans. Its note is a loud, weird, uncanny cry, which it utters directly it takes flight on the approach of an intruder. It breeds on the moors or in marshy places, the nest being a mere depression on a tussock, scantily lined, and the eggs, 4 in number, are usually deposited from early in April to late in May, and vary from light greenish to dark olivaceous in ground-colour, and are marked with purplish brown shell-markings and dark umber-brown surface spots and blotches; in size they measure about 2·72 by 1·84.

1108. Australian Curlew.

NUMENIUS CYANOPUS.

Numenius cyanopus, Vieill. Nouv. Dict. viii. p. 306 (1817); Seebohm, B. Jap. Emp. p. 315; Sharpe, Cat. B. Br. Mus. xxiv. p. 350; Tacz. F. O. Sib. O. p. 940; *N. australis*, Gould, P.Z.S. 1837, p. 155; id. B. of Austr. vi. pl. 42; *N. major* (nec. Steph.), Temm. and Schlegel, Faun. Jap. Aves, pl. 66; *N. tahitiensis* (nec. Gmel.), Swinhoe, P.Z.S. 1871, p. 410; Ridgway, p. 171; David and Oust. Ois. Chine, p. 458.

♂ *ad.* (China). Differs from *N. arquatus* in having the rump and upper tail-coverts conspicuously marked with brown, and the upper and under parts washed with warm vinous buff or rufous buff; under wing-coverts and axillaries broadly barred with blackish brown. Culmen 7·8, wing 13·0, tail 5·4, tarsus 3·3 inch.

Hab. Eastern Siberia, north to Kamchatka; Japan, Corea, and China; passing the winter as far south as Australia; of rare occurrence in Alaska.

It is said not to differ from our European Curlew in its general habits. Nothing, however, appears to be known respecting its nidification.

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IBIDORHYNCHUS, Vigors, 1831.

1109. Ibis-bill.

IBIDORHYNCHUS STRUTHERSI.

Ibidorhynchus struthersi, Vigors, P.Z.S. 1831, p. 174 ; Gould, Cent. B. Himal. Mts. pl. 79 ; id. B. of As. vii. pl. 61 ; David and Oust. Ois. Chine, p. 456, pl. 118 ; Sharpe, Cat. B. Br. Mus. xxiv. p. 335 ; Blanf. F. Brit. Ind. Birds, iv. p. 249 ; *Falcirostra kaufmanni* and *longipes*, Severtz. Turk. Jevotn. pp. 69, 146, 147, pl. x. (1873).

♂ *ad.* (Kan-su). Crown, nape, face to the hind part of the eye, fore neck, and a broad band across the breast black ; rest of the head and neck blue-grey becoming white where it meets the black ; upper parts generally buffy French-grey, becoming bluish on the outer primaries, outer wing-coverts, and rump ; upper tail-coverts blackish terminated with blue-grey ; tail ashy blue-grey narrowly barred with blackish, and tipped with black, the outer web of the outermost feathers white broadly barred with black ; primaries with a white spot near the end of the inner web, largely increasing on the inner quills ; under parts, with under wing-coverts and axillaries, pure white ; bill curved, deep crimson ; legs blood-red ; iris crimson. Culmen 3·0, wing 9·3, tail 4·7, tarsus 1·8 inch. Female similar, but with the black portions of the plumage slightly tinged with brown. Young birds lack the blackish on the head and breast.

Hab. Central Asia, from Western Turkestan east to Tibet, Mongolia, and China ; the Afridi country, Afghanistan, and the Himalayas from Kashmir to Upper Assam.

Is chiefly to be met with singly or in pairs or small parties on the mountain streams, as high as 12,000 feet, and winters in the mountains in spite of the cold. It is said to be rather shy, and when taking wing utters a loud note, and flies very low, close to the water, following the curves of the stream. It certainly breeds in the Himalayas, but its nesting habits and eggs are as yet unknown.

HYDROCHELIDON, Boie, 1822.

1110. Black Tern.

HYDROCHELIDON NIGRA.

Hydrochelidon nigra (Linn.), Syst. Nat. i. p. 227 (1766); (Naum.), x. p. 189, Taf. 256 ; (Hewitson), ii. p. 488, pl. cxxxv. ; (Gould), B. of E. v. pl. 422 ; id. B. of Gt. Brit. v. pl. 75 ; Dresser, viii. p. 327, pl. 592 ; Saunders, Cat. B. Br. Mus. xxv. p. 17 ; id. Manual, p. 633 ; Ridgway, p. 46 ; Lilford, vi. p. i. pl. i. ; *S. fissipes*, Lath. Ind. Orn. ii. p. 810 (1790 nec. Linn.)

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Guifette noire, French; *Gaivina*, *Ferreirinho*, Portug.; *Fumarell*, Span.; *Mignattino*, Ital.; *Schwarze-Seeschwalbe*, German; *Zwarte-Zeezwaluw*, Dutch; *Sort-Terne*, Dan. and Norweg.; *Svart-Tärna*, Swed.; *Tschernaya-martyschka*, Russ.

♂ *ad.* (Spain). Crown, nape, and hind neck glossy black; upper parts and tail plumbeous blue-grey; quills darker plumbeous grey; sides of head, throat, and under parts plumbeous black; under wing- and tail-coverts white, the former tinged with grey; bill purplish black; legs blackish brown with a purplish tinge; iris dark brown. Culmen 1·3, wing 8·0, tail 3·25, only moderately forked, tarsus 0·65 inch. Sexes alike. The young bird has the forehead and hind neck white, the upper parts brownish ashy marked with light brown, the fore back blackish and the under parts white, marked with blackish on the sides of the breast, and the adult in winter is similar, but the upper parts are clearer grey and the markings on the sides of the breast are absent.

Hab. Europe generally, north to about 60° N. lat., now only a rare visitant to Britain; Africa in winter to Abyssinia on the east, and Loango on the west side; Asia Minor and Asia east to Western Turkestan. In the New World it is replaced by a nearly allied species, *H. surinamensis* (Gmel.).

As a rule the Black Tern is extremely tame and fearless. On the wing it is extremely graceful and may often be seen hovering over the water for a moment and then pouncing down like a stone on its prey. It feeds chiefly on aquatic insects of various kinds, worms, grubs, &c. It breeds in swamps, making a tolerably well constructed nest of grass and marsh plants, and late in May deposits 3 eggs, which are ochreous clay in ground-colour, sometimes with an olivaceous tinge, marked with purplish grey shell spots, and blackish surface spots and blotches, and measure about 1·49 by 1·0.

1111. White-winged Black Tern.

HYDROCHELIDON LEUCOPTERA.

Hydrochelidon leucoptera (Schinz.), in Meisn. and Schinz. Vög. der Schweiz. p. 264 (1815); (Naum.), x. p. 215, Taf. 257; (Gould), B. of E. v. pl. 423; id. B. of Gt. Brit. v. pl. 76; Dresser, viii. p. 321, pls. 590, 591; David and Oust. Ois. Chine, p. 524; Saunders, Cat. B. Br. Mus. xxv. p. 6; id. Manual, p. 635; Blanf. F. Brit. Ind. Birds, iv. p. 308; Ridgway, p. 47; Lilford, vi. p. 3, pl. 2; *H. fissipes*, Tacz. F. O. Sib. O. p. 1015.

Hirondelle de mer leucoptère, French; *Fumarell*, Span.; *Mignattino ali-branchi*, Ital.; *Weissflüglige Seeschwalbe*, German.

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♂ *ad.* (Algeria). Differs from *H. nigra* in having the upper and under parts deep black; the upper tail-coverts, tail, edge of the wing, and lesser wing-coverts white, the larger coverts French-grey; under tail-coverts white; bill reddish black; legs coral-red; iris dark brown. Culmen 1·1, wing 8·2, tail 3·0, tarsus 0·8, middle toe with claw 0·9 inch. In winter and in immature dress it may be distinguished from *H. nigra* by having the rump and upper tail-coverts almost white, the bill stouter, and the tarsus and foot longer.

Hab. Central and Southern Europe; an irregular visitor to Britain; Africa as far south at least as the Transvaal; Asia Minor and Asia east to China, north to Dauria; Mongolia; Manchuria; Burma; Eastern India and Ceylon; south to Australia and New Zealand; has been obtained in Wisconsin (North America) and Barbadoes.

In habits this Tern resembles *H. nigra*, but its note is louder and harsher, and it is somewhat swifter and more agile on the wing. It breeds in societies in marshy localities, and its nest and eggs resemble those of the Black Tern.

1112. Whiskered Tern.

HYDROCHELIDON HYBRIDA.

Hydrochelidon hybrida (Pall.), Zoogr. Ross. As. ii. p. 338 (1811); Dresser, viii. p. 315, pls. 588, 589; David and Oust. Ois. Chine, p. 524; Saunders, Cat. B. Br. Mus. xxv. p. 10; id. Manual, p. 537; Blanf. F. Brit. Ind. Birds, iv. p. 307; Lilford, vi. p. 5, pl. 3; *H. leucopareia* (Natterer), in Temm. Man. d'Orn. ii. p. 746 (1820); (Gould), B. of E. v. pl. 424; id. B. of Gt. Brit. v. pl. 77; (Naum.), x. p. 168, Taf. 255; Hewitson, ii. p. 483, pl. cxxxiv. fig. 2; Ridgway, p. 47; *H. fluviatilis*, Gould, P.Z.S. 1842, p. 140; id. B. of Austral. viii. pl. 31.

Hirondelle de mer moustac, French; *Paino mayor*, Span.; *Mignattino bigio*, Ital.; *Weissbärtige Seeschwalbe*, German; *Mershik*, Moor.

♂ *ad.* (S. Spain). Crown and nape glossy black; upper parts and tail slate-grey, rather darker on the primaries; outermost tail-feathers with the outer web white; a white streak from the gape to the nape; chin white, throat grey, darker on the breast, and becoming black on the abdomen and flanks; under wing- and tail-coverts white; bill and legs blood-red; iris dark brown. Culmen 1·45, wing 9·2, tail 3·4, outer tail-feathers 0·7 longer than the middle ones, tarsus 0·9 inch. Sexes alike. In winter the forehead and fore crown are white, the rest of the crown, nape, and hind neck black marked with white, the upper parts paler than in summer, and the under parts white. The young bird is similar, but has the upper parts blotched with blackish.

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Hab. Southern, South-western, and Central Europe; a rare straggler to North Germany and Britain; Africa south to the Cape in winter; temperate Asia east to China; Burma, India, and Ceylon, passing south in winter through the Malay Archipelago to Australia; has once been recorded from Barbadoes.

Frequents marshes and inland waters in preference to the sea coasts, and in general habits resembles its allies. It feeds on small fish, caterpillars, aquatic insects of various kinds, leeches, and dragon-flies. It breeds in marshes, in tolerably large colonies, building a somewhat large but clumsy nest of aquatic plants, which is placed on the herbage on the surface of the water, and lays 2 or 3 eggs, which vary in ground-colour from greyish buff or stone-buff to pale greenish or greenish grey, and are marked with purplish grey shell blotches, and blackish brown surface spots and blotches; in size they measure about 1·52 by 1·12.

STERNA, Linn., 1766.

1113. Arctic Tern.

STERNA MACRURA.

Sterna macrura, Naum. Isis, 1819, p. 1847; id. x. p. 114, Taf. 253; Gould, B. of Gt. Brit. v. pl. 72; Saunders, Cat. B. Br. Mus. xxv. p. 62; id. Manual, p. 649; Lilford, vi. p. 20, pl. 9; *S. paradisea*, Brünn. Orn. Bor. p. 46 (1764); Ridgway, p. 43; Tacz. F. O. Sib. O. p. 1008; *S. hirundo*, Müller, Zool. Dan. Prod. p. 170 (1774); Dresser, viii. p. 255, pl. 579; *S. arctica*, Temm. Man. d'Orn. ii. p. 742 (1820); Audub. B. Am. pl. 250; Gould, B. of E. v. pl. 419; Hewitson, ii. p. 481, pl. cxxxiii. figs. 1, 2.

Sterne paradis, French; *Gaivina*, Portug.; *Gavina*, Span.; *Rondine di mare artica*, Ital.; *Küsten-Meerschwalbe*, German; *Kyst-Terne*, Dan.; *Rödnæbbet-Terne*, Norweg.; *Rödnäbbad-Tärna*, Swed.; *Cerrik*, Lapp.; *Lapintirra*, Finn.; *Krashka morskaya*, Russ.

♂ *ad.* (Scotland). Crown black; upper parts delicate silver-grey; quills dark grey, the outer web of the first blackish; secondaries tipped with white; tail white, the outer webs of the two longest feathers dark grey; chin, sides of face, under wing- and tail-coverts white; rest of under parts silver-grey; bill and legs coral-red; iris blackish brown. Culmen 1·3, wing 10·4, tail 8·0, tarsus 0·55 inch. Sexes alike. In winter the forehead and crown are mottled with white, and the under parts are paler.

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Hab. The high northern portions of the Old and New Worlds, nesting north to 82° N. lat. or even higher; in winter passing south to South Africa, South Asia, and South America as far as 66° S. lat. in the Southern Ocean.

Frequents the sea coasts and islands off the coast, and is noisy but not shy. Its flight is extremely buoyant, easy, and graceful, and it will sometimes alight on the water and swim, and will even dive. It feeds on small fish, shrimps, and crustaceans of various kinds, and its note is recognizable from that of the Common Tern by a practised ear, being a somewhat plaintive *keer, keer,* or *kee, kee, kee,* or *gip, gip, gip, gip,* often modulated. It usually breeds close to the sea, but in some parts on the borders of inland lakes, making no nest, but depositing its 2 or 3 eggs on the sand, shingle, or on dry seaweed or grass; these, which are usually deposited in June or July, according to latitude, vary in ground-colour from white to stone-grey, pale blue-green and rich greenish, and are spotted and blotched with umber-brown or blackish brown surface-markings and pale purplish shell-blotches; in size they measure about 1·45 by 1·11.

1114. Common Tern.

STERNA FLUVIATILIS.

Sterna fluviatilis, Naum. Isis, 1819, pp. 1847–1848; Dresser, viii. p. 263, pl. 580; David and Oust. Ois. Chine, p. 525; Saunders, p. 647; id. Cat. B. Br. Mus. xxv. p. 54; Tacz. F. O. Sib. O. p. 1010; Blanf. F. Brit. Ind. Birds, iv. p. 318; *S. hirundo* (partim), Linn. Syst. Nat. i. p. 227 (1766); Audub. B. N. Am. pl. 309; Naum. x. p. 89, Taf. 252; Hewitson, ii. p. 480, pl. cxxxiii. fig. 3; Gould, B. of E. v. pl. 417; id. B. of Gt. Brit. v. pl. 70; Ridgway, p. 43; Lilford, vi. p. 17, pl. 8.

Pierre Garin, French; *Gaivina, Andorhina do mar,* Portug.; *Gavina,* Span.; *Rondina di mare,* Ital.; *Fluss Meerschwalbe,* German; *Vischdiefje,* Dutch; *Almindelig-Terne,* Dan.; *Makrel-Terne,* Norweg.; *Fisktärna,* Swed.; *Kalatirra,* Finn.; *Krashka-rashnaya,* Russ.

♂ *ad.* (England). Differs from *S. macrura* in having the under parts vinaceous grey, paler, the chin and cheeks white, the dark bands on the inner webs of the primaries wider and darker, and the outermost tail-feathers shorter; bill coral-red, blackish at the tip; legs coral-red; iris dark brown. Culmen 1·5, wing 10·5, tail 5·6, tarsus 0·7 inch.

Hab. Europe generally, but not ranging so far north as *S. macrura*; migrating south down to South Africa in winter;

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temperate Asia, passing south on passage and in winter to China, India, and the Malay Peninsula; North America from Labrador to Texas, ranging south to Bahia, Brazil, in winter; rare on Pacific coasts.

In habits the Common Tern does not differ from the Arctic Tern, but it is less marine in the choice of habitat and is often found on rivers, lakes, and inland ponds. Its food and nest are also similar, but its note is somewhat harsher. Its eggs resemble those of *S. macrura*, and are also subject to considerable variation, but are as a rule a trifle larger, averaging about 1·59 by 1·19.

1115. Nordmann's Tern.

STERNA LONGIPENNIS.

Sterna longipennis, Nordmann, in Ermans Reise, p. 17 (1835); Middend. Sib. Reise, p. 246, Tab. 25, fig. 4; David and Oust. Ois. Chine, p. 526; Seebohm, B. Jap. Emp. p. 296; Saunders, Cat. B. Br. Mus. xxv. p. 67; Blanford, F. Brit. Ind. Birds, iv. p. 319; *S. camtschatika*, Kittlitz, Denkw. Reise, i. p. 322, and ii. p. 200 (1858); Tacz. F. O. Sib. O. p. 1011.

♂ *ad.* (Amoor). Intermediate between *S. fluviatilis* and *S. macrura*, having like the former the under parts vinaceous grey; the upper parts slightly darker than the latter species; stripe on the inner web of outer primaries as broad as in *S. fluviatilis*; bill black; legs blackish; iris dark brown. Culmen 1·6, wing 10·6, tail 7·1, tarsus 0·75 inch.

Hab. Eastern Siberia, north to Kamchatka; Japan; China; Ceylon; in winter migrating as far south as New Guinea.

In habits, food, and nidification, this Tern does not differ from *S. macrura*. Its eggs, from Kamchatka, are described as being rather less marked than those of that species, and measure about 1·55 by 1·12.

1116. Roseate Tern.

STERNA DOUGALLI.

Sterna dougalli, Montag. Orn. Dict. Suppl. (1813); Naum. x. p. 78, Taf. 251; Hewitson, ii. p. 479, pl. cxxxii. fig. 1; Gould, B. of E. v. pl. 418; Dresser, viii. p. 273, pl. 581; Saunders, Cat. B. Br. Mus. xxv. p. 70; id. Manual, p. 645; Lilford, vi. p. 15, pl. 7; Blanford, F. Brit. Ind. Birds, iv. p. 319; Ridgway, p. 44; *S. paradisea*, Keys. and Blas. Wirbelth. Eur. p. 247 (1840, nec. Brünn.); Gould, B. of Gt. Brit. v. pl. 71; Tacz. F. O. Sib. O. p. 1008; *S. gracilis*, Gould, P.Z.S. 1845, p. 76; id. B. of Austral. vii. pl. 27.

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Sterne de Dougall, French; *Paradies-Meerschwalbe*, German; *Dougalls-Terne*, Dan.

♂ *ad.* (Massachusetts). Crown and nape glossy black; upper parts light French-grey; the rump, upper tail-coverts, and tail white washed with grey; rest of plumage white; under parts tinged with delicate rose-colour; first primary with the outer web blackish; bill orange-red at the base, otherwise black; legs orange-red; iris dark brown. Culmen 1·7, wing 9·0, tail 9·0, the lateral feathers extending nearly 6 inches beyond the middle ones, tarsus 0·8 inch. Sexes alike. In winter the forehead is white, the crown and nape brownish black marked with white, the bill nearly black, and the under parts lack the rose tinge.

Hab. Europe, north to Britain, and rarely to Denmark; somewhat rare in South Europe, but has been recorded from South Africa and the Azores; the coasts of Asia north to the Loo-choo Islands; China, Ceylon, the Andamans; Malaysia, south to Australia and New Caledonia; Eastern America from Massachusetts to Venezuela; West Indies, and the Antilles.

In general habits it resembles the Common and Arctic Terns, but its cry is easily distinguishable from either of those. It is essentially an oceanic species, and its breeding range is very wide. Its eggs, 2 to 3 in number, are deposited on the ground on the coast, in sandy localities, and on small islands, and resemble those of the Common and Arctic Terns, but are as a rule more elongate in shape, and measure about 1·67 by 1·18.

1117. Allied Tern.

STERNA MEDIA.

Sterna media, Horsf. Tr. Linn. Soc. xiii. p. 198 (1820); Dresser, viii. p. 285, pl. 583; Saunders, Cat. B. Br. Mus. xxv. p. 86; Blanf. F. Brit. Ind. Birds, iv. p. 313; *S. affinis*, Cretzschm. in Rüpp. Atlas, p. 23, Tab. 14 (1826); *S. bengalensis*, Lesson, Traité d'Orn. p. 621 (1831); *S. torresii*, Gould, P.Z.S. 1842, p. 140; id. B. of Austral. vii. pl. 25.

♂ *ad.* (Egypt). Crown and nape deep black, the nuchal feathers elongated; neck, fore back, chin, throat, and under parts white; mantle ashy grey; rump and tail pearly ash-grey, the outermost tail-feathers white; quills hoary grey on the outer web, the inner web blackish near the shaft and tip, otherwise white; bill yellow with a greenish tinge; legs and toes black, the soles pale yellowish; iris brown. Culmen 2·5, wing 11·6, tail 6·3, outer feathers 3 inches longer than the middle ones, tarsus 1·05 inch. In winter the forehead is dull hoary grey, the crown white closely spotted with black, the nape black.

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Hab. Mediterranean, from the Straits of Gibraltar, where it is somewhat rare, to Egypt; the Red Sea down to Madagascar; coasts of Persian Gulf, Indian Ocean, India, Ceylon, and Burma (rarely), ranging south to Malacca, Sumatra, Java, Celebes, and North Australia.

In general habits it appears to resemble the Sandwich Tern. It frequents the sea coasts and small islands, and is very gregarious, being usually seen in large flocks, and like its allies feeds on small fish. It breeds in colonies, the nest being a mere depression near the shore, usually in sand, and the eggs, 2 in number, are in general character like those of the Sandwich Tern, are dull white, glossless, with purplish grey shell-markings, and dark brown surface spots, and measure about 2·18 by 1·56.

1118. Sandwich Tern.

STERNA CANTIACA.

Sterna cantiaca, Gmel. Syst. Nat. i. p. 606 (1788); Naum. x. p. 50, Taf. 250; Hewitson, ii. p. 478, pl. cxxxii. figs. 2, 3; Gould, B. of E. v. pl. 415; (id.), B. of Gt. Brit. v. pl. 69; Audub. B. of Am. pl. 279; Dresser, viii. p. 301, pl. 586; Saunders, Cat. B. Br. Mus. xxv. p. 75; id. Manual, p. 643; Blanf. F. Brit. Ind. Birds, iv. p. 312; Lilford, vi. p. 13, pl. 6; *S. acuflavida*, Cabot, Proc. Bost. Soc. ii. p. 257 (1847); Ridgway, p. 40.

Hirondelle de mer caugek, French; *Garajau*, Portug.; *Golondrina de mar*, Span.; *Beccapesci*, Ital.; *Brand-Meerschwalbe*, German; *Groote-zeezwaluw*, Dutch; *Kentisk-Terne*, Dan.

♂ *ad.* (Turkey). Head to below the eye and nape glossy black, the nuchal feathers elongated; a white line from the nostril along the edge of the upper mandible; mantle plain French-grey; primaries with white margins to the inner webs; tail white; under parts white with a very faint pink tinge; bill black, the tip yellow; legs black; iris dark brown. Culmen 2·35, wing 12·1, tail 6·8, the outer feathers 3·4 longer than the middle ones, tarsus 1·1 inch. In winter the forehead is white, the crown and nape white closely spotted with black; a blackish spot before the eye.

Hab. Europe, but not extending north above Britain or Denmark, and a very rare straggler to Southern Sweden; on passage, and in winter ranging as far south as the Canaries and the Cape of Good Hope; Asia, east to Sind; the Atlantic coasts of North America, Cuba, Jamaica, both sides of Central America, and as far south as Bahia in Brazil.

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Is essentially a marine bird, frequenting the coast, but has been recorded as nesting near salt water on a moorland loch, yet this is very exceptional. It feeds, like its allies, on small fish, its flight is strong and rapid, and its note is a loud harsh *kirrhitt, kirhitt.* It nests in communities, usually in sandy places near the sea, its 2 or 3 eggs being deposited in a depression in the ground, usually in May or June. These are subject to considerable variation, the ground-colour varying from white to stone-buff, the shell-markings being purplish or pale brownish grey, and the surface spots and blotches, which are in some more pronounced than in others, are blackish brown; some have peculiar hieroglyphic streaks, as if drawn with a pen. In size they measure about 2·05 by 1·42.

1119. Caspian Tern.

STERNA CASPIA.

Sterna caspia, Pall. Nov. Comm. Petrop. xiv. p. 582, tab. xxii. fig. 2, (1770); Naum. x. p. 18, Taf. 248; Hewitson, ii. p. 477, pl. cxxxi. figs. 2, 3; Gould, B. of E. v. pl. 414; (id.), B. of Gt. Brit. v. pl. 68; Dresser, viii. p. 289, pl. 584; (David and Oust.), Ois. Chine, p. 522; (Saunders), Cat. B. Br. Mus. xxv. p. 32; id. Manual, p. 641; Lilford, vi. p. 11, pl. 5; (Blanf.), F. Brit. Ind. Birds, iv. p. 309; (Tacz.), F. O. Sib. O. p. 1006; *S. tschegrava*, Lepechin, Nov. Comm. Petrop. xiv. p. 500 (1770); Ridgway, p. 39; *S. strenuus* (Gould), P.Z.S. 1846, p. 21; (id.), B. of Austral. vii. pl. 22.

Sterne tschegrava, French; *Garnica*, Span.; *Beccapesci maggiore*, Ital.; *Raub-Meerschwalbe*, German; *Reus-Zeezwaluw*, Dutch; *Rov-Terne*, Dan.; *Skräntärna*, Swed.; *Raukutirra*, Finn.; *Krashka-tschegrava*, Russ.; *Abou-Belaha*, Arab.; *Kekra*, in Sind.

♂ *ad.* (Dobrudscha). Crown to just below the eye and nape glossy black; nuchal feathers elongated; mantle French-grey; rest of upper parts, tail, and under parts white; quills hoary grey, the margins of the inner webs slate-grey; bill bright coral-red; blackish at the tip; legs black; iris dark brown. Culmen 2·9, wing 15·5, tail 6·0, outer feathers 1·3 longer than the middle ones, tarsus 1·8 inch. In winter the crown is white striped with black; a blackish patch in front of the eye; bill orange-red, tipped with horn-colour.

Hab. Europe, north to the head of the Gulf of Bothnia; an irregular visitor to England; Africa south to the Cape and Madagascar; Asia, north to Southern Dauria, east to China, south to India, Ceylon, and Burma; the Malay Archipelago, Australia, and New Zealand; North America generally, rarer

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on the Pacific coast, ranging south in winter to Florida on the east and Mexico on the west side.

Frequents the sea coasts, seldom inland waters. It feeds chiefly on fish, but is said also to sometimes devour young birds of the smaller Terns. Its note is a loud, deep, harsh *craak, craa.* It breeds either in pairs or in communities, placing its eggs on the ground; these, 2 to 3 in number, are usually deposited late in May or early in June, and vary in ground-colour from stone-grey to stone-buff with a greenish tinge, and are marked with purplish grey shell blotches, and blackish-brown surface spots, blotches, and blotchy lines. In size they measure about 2·45 by 1·75.

1120. Royal Tern.

STERNA MAXIMA.

Sterna maxima, Bodd. Tabl. Pl. Enl. p. 58, No. 988 (1783); Dresser, ix. p. 383, pl. 716; Saunders, Cat. B. Br. Mus. xxv. p. 80; Ridgway, p. 40; *S. cayennensis*, Gmel. Syst. Nat. i. p. 604 (1788); Audub. B. Amer. pl. 273; *S. regia*, Gambel. Pr. Phil. Acad. iv. p. 228 (1848).

♂ *ad.* (S. Carolina). Crown and nape black, the nuchal feathers elongated and pointed; neck, edge of wing from carpus, tail, and under parts white; mantle pearl-grey, the rump paler grey; outer webs of primaries dark grey, a broad line near the shaft, and ends of inner webs blackish grey; bill orange-red; legs black; iris brown. Culmen 2·8, wing 14·3, tail 6·2, outer feathers extending 2·0 beyond the middle ones, tarsus 1·35 inch. In winter the forehead and fore crown are white mottled with black, and a small space at the base of the bill dull grey; bill paler orange.

Hab. America, on the east side from Long Island to Southern Brazil, possibly to Parana, on the west side from California to Peru; West Coast of Africa from the Straits of Gibraltar to Angola.

In general habits it resembles *S. caspia*, but is said to swim very rarely. It breeds near the sea, usually in sandy places, laying 2 eggs, which are buffy white or pale yellowish, somewhat sparsely spotted with purplish grey and dark umber, and measure about 2·59 by 1·71.

1121. Gull-billed Tern.

STERNA ANGLICA.

Sterna anglica, Montag. Orn. Dict. Suppl. fig. (1813); Naum. x. p. 38, Taf. 249; Hewitson, ii. p. 476, pl. cxxxi. fig. 1; Gould, B. of E. v. pl. 416; (id.), B. of Gt. Brit. v. pl. 74; Dresser,

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viii. p. 295, pl. 585; (Saunders), Cat. B. Br. Mus. xxv. p. 25; id. Manual, p. 639; Lilford, vi. p. 9, pl. 4; *S. aranea*, Wils. Am. Orn. viii. p. 143, pl. 72, fig. 6 (1814); ? *S. nilotica*, Gmel. Syst. Nat. i. p. 606 (1788); (Ridgway), p. 38; *S. macrotarsa*, Gould, P.Z.S. 1837, p. 26; (id.), B. of Austral. Suppl. pl. 81; Tacz. F. O. Sib. O. p. 1004.

Sterne hansel, French; *Golondrina de mar*, *Cagará*, Span.; *Beccapesci-inglese*, Ital.; *Lach-meerschwalbe*, German; *Lach-Zeezwaluw*, Dutch; *Engelsk-Terne*, Dan.; *Tschernonosaya-Martyschka*, Russ.

♂ *ad.* (Turkey). Crown and nape glossy black leaving a white line along the edge of the gape; chin, throat, sides of neck and under parts white; upper parts with the tail pale bluish pearl-grey; quills towards the tip and the inner web blackish grey, lighter in the centre; bill and legs black; iris brown. Culmen 1·6, wing 11·65, tail 5·0, lateral tail-feathers 1·6 inch longer than the middle ones, tarsus 1·2. In winter the forehead is white, the nape greyish white striped with black; space before the eye marked with black; behind the eye a blackish stripe.

Hab. Europe, to about 55° N. lat. in summer; a rare straggler to Great Britain, but nests on the island of Sylt; Northern Africa down to below Kordofan; temperate and Southern Asia, north to Mongolia; Manchuria; in winter somewhat irregularly distributed in Burma, India, and Ceylon, and ranging as far south as Australia, where it breeds.

In habits it somewhat resembles *S. cantiaca*, but is more Gull-like, and its note, *ef ef*, or *af af*, is much more like that of a Gull. It feeds also largely on insects, orthoptera, coleoptera, and lepidoptera, locusts and grasshoppers. It breeds in communities, the nest being a mere depression in the sand or soil, sometimes with a scanty lining of straws, and in May or early in June deposits 2 to 3, rarely 4 eggs. These vary in ground-colour from stone-ochre and greyish white to pale greenish brown marked with pale greyish brown shell spots, and greenish or reddish brown surface spots and blotches, and measure about 1·85 by 1·36.

1122. Little Tern.

STERNA MINUTA.

Sterna minuta, Linn. Syst. Nat. i. p. 228 (1766); Naum. x. p. 145, Taf. 254; Hewitson, ii. p. 484, pl. cxxxiv. fig. 1; Gould, B. of E. v. pl. 420; (id.), B. of Gt. Brit. v. pl. 73; Dresser, viii. p. 279, pl. 582; Saunders, Cat. B. Br. Mus. xxv. p. 116; id. Manual, p. 651; Blanford, F. Brit. Ind. Birds, iv. p. 321; Lilford, vi. p. 21, pl. 10.

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Sterne naine, French; *Catalinita*, *Moncheta*, Span.; *Fraticello*, Ital.; *Zwerg-Meerschwalbe*, German; *Dwerg-zeezwaluw*, Dutch; *Dværg-Terne*, Dan.; *Smådärna*, Swed.; *Malaya-Martyschka*, *Malaya-Kraschka*, Russ.

♂ *ad.* (England). Forehead white; a stripe from the base of the bill through the eye, crown, and nape deep black; mantle and upper rump dark pearl-grey; lower rump, tail-coverts, tail, and entire under parts pure white; first three primaries with blackish shafts, and blackish in colour, broadly margined on the inner web with white; bill yellow tipped with black; legs light orange; iris brown. Culmen 1·4, wing 6·75, tail 3·8, the lateral feathers 1·95 longer than the middle ones, tarsus 0·6 inch. In winter the upper parts are rather darker, and more white on the forehead.

Hab. Europe generally, from Southern Sweden to the Mediterranean, but rarer in the north; Britain in summer; North Africa and the West Coast down to the Cape in winter; Asia east to India and Burma, and south in winter as far as Java. In America it is replaced by a nearly allied species, *S. antillarum*.

In general habits it differs but little from the Common Tern, and is equally graceful on the wing. It usually frequents the sea coasts, though it is not unfrequently seen on inland waters. Its food consists of small fishes, aquatic insects, and larvæ, and its note is a shrill, somewhat harsh *kreek*, or *kree*. Its 2 to 3 eggs are deposited on the sand or shingle, usually late in May or early in June, and are greyish yellow or stone-ochre in ground-colour, somewhat sparingly covered with violet-grey shell-markings and blackish brown surface spots, and measure about 1·28 by 0·92.

The young of this and all the preceding Terns resemble the adult in winter dress, but have the upper parts marked or mottled with buff, dusky brown, or blackish.

1123. Asiatic Little Tern.

STERNA SINENSIS.

Sterna sinensis, Gmel. Syst. Nat. i. p. 608 (1788); (David and Oust.), Ois. Chine, p. 527; (Seebohm), B. Jap. Emp. p. 298; Saunders, Cat. B. Br. Mus. xxv. p. 113; (Tacz.), F. O. Sib. O. p. 1014; Blanf. F. Brit. Ind. Birds, iv. p. 320; *Sternula placens*, Gould, Ann. Nat. Hist. viii. p. 192 (1871); id. B. N. Guin. v. pl. 72.

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♂ *ad.* (China). Differs from *S. minuta* in being larger, in having the shafts of the primaries white, the outer web of the first, and inner web near the shaft dark grey, the upper tail-coverts and tail pure white, and the outer tail-feathers longer. Culmen 1·5, wing 7·4, tail 5·6, the outer feathers 3·3 longer than the middle ones, tarsus 0·65 inch.

Hab. Ceylon, Burma, and China, east to Japan; Malaysia down to New Guinea, Australia, and New South Wales.

In habits it does not appear to differ from *Sterna minuta*, frequenting similar localities and feeding also on small fish and small crustaceans, &c. It breeds on sand-banks in rivers and on the coast, in March and April in Pegu, and from June to August in Ceylon, depositing its 2 to 3 eggs on the ground. The eggs vary in ground-colour from stone-grey to yellowish or pale brownish buff and olivaceous grey, the shell-markings being bluish inky and purplish grey and the surface blotches of dark sepia and brown of various shades; in size they measure about 1·24 by 0·94.

1124. Aleutian Tern.

STERNA ALEUTICA.

Sterna aleutica, Baird, Trans. Chicago Acad. 1869, p. 321, pl. 31, fig. 1; Saunders, Cat. B. Br. Mus. xxv. p. 98; Ridgway, p. 45; Seebohm, B. Jap. Emp. p. 299; Tacz. F. O. Sib. O. p. 1013.

♂ *ad.* (Alaska). Crown, nape, and loral streak black; middle of forehead back to the eye white; mantle slate-grey; rump, tail, chin, lower cheeks, under wing- and tail-coverts white; primaries dark grey, the outer web of the first blackish, a dark line on the inner web next the white shaft; white wedges to the four outer primaries; secondaries edged with white; abdomen and breast pale slate-grey; bill and legs black; iris dark brown. Culmen 1·5, wing 10·65, tail 6·5, lateral tail-feathers 3·6 longer than the middle ones, tarsus 0·75 inch. In winter there is more white on the forehead.

Hab. Alaska; both sides of the Bering Sea; the Aleutian Islands; Saghalien and South-eastern Japan.

In habits it is said to resemble the Arctic Tern, but its note is weaker and more squeaky. It deposits its 1 to 2 eggs on the ground, and these resemble those of the Arctic Tern, but are darker in ground-colour and more boldly marked; in size they measure about 1·6 by 1·15.

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1125. Sooty Tern.

STERNA FULIGINOSA.

Sterna fuliginosa, Gmel. Syst. Nat. i. p. 605 (1788) ; Naum. xiii. p. 267, Taf. 387 ; Wils. Am. Orn. viii. p. 145, pl. 72, fig. 1 ; Gould, B. of Austral. vii. pl. 32 ; Temm. and Schlegel, Faun. Jap. Aves, p. 133, pl. 89 ; (David and Oust.), Ois. Chine, p. 528 ; Dresser, viii. p. 307, pl. 587 ; Saunders, Cat. B. Br. Mus. xxv. p. 106 ; id. Manual, p. 653 ; Ridgway, p. 45 ; Lilford, vi. p. 26, pl. 11 ; Blanf. F. Brit. Ind. Birds, iv. p. 324.

♂ *ad.* (Florida Keys). Forehead, sides of head to the eye, chin, throat, and entire under parts white ; crown, a stripe from the base of the bill through the eye, nape, hind neck, and upper parts, with the tail black, the mantle tinged with brown ; the outermost feather on each side of the tail greyish black towards the end of the inner web, otherwise white ; bill and legs black ; iris reddish brown. Culmen 1·9, wing 11·2, tail 7·0, tarsus 0·92 inch. In winter the lores and crown are marked with white.

Hab. Atlantic, chiefly on the southern islands, the southern coasts of North America, and as far south as Chili ; several parts of the African coasts ; rarer on the coasts of Asia, but is found as far south as Australia ; very rare on the Pacific coasts of America, but has been recorded from the Aleutian Islands and Western Mexico. Has been obtained three times in England, and thrice on the continent of Europe.

Is essentially a marine bird, and nests in large communities on many of the tropical and subtropical islands, depositing as a rule a single egg on the ground. The eggs are white or cream-buff in ground-colour, the shell-markings purplish grey, and the surface spots and blotches deep red ; some are but slightly marked, but others are very boldly blotched. In size they measure about 2·0 by 1·39.

1126. Panayan Tern.

STERNA ANÆSTHETA.

Sterna anæstheta, Scop. Del. Faun. et Flor. In. i. p. 92, No. 72 (1786) ; Seebohm, B. Jap. Emp. p. 301 ; Saunders, Cat. B. Br. Mus. xxv. p. 101 ; Blanf. F. Brit. Ind. Birds, iv. p. 323 ; *S. panaya*, Lath. Ind. Orn. p. 808 (1790) ; (Gould), B. of Austral. vii. pl. 33.

♂ *ad.* (Paternoster Island). Differs from *S. fuliginosa* in being smaller, in having the hind neck and fore back greyish white, the upper parts paler, blackish slate, and the webbing of the feet different, not continued to the claws, but only to the last joint of the toes. Culmen 1·7, wing 10·3, tail 8·3, tarsus 0·8 inch.

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Hab. Tropical seas generally; both coasts of Africa, south to Madagascar and the Mascarene Islands; the Indian Ocean and China Seas, north to Japan, and south to New Guinea, North Australia, the Fiji, Tonga, Ellice, and Phœnix Groups; of accidental occurrence on the coasts of Florida, and is said to have once occurred at the mouth of the Thames.

In general habits it resembles *S. fuliginosa*, but does not breed in such large colonies, its single egg being laid on the sand or ground, or in holes in the coral or sandstone, in May. The eggs resemble those of *S. fuliginosa*, but are rather smaller and less boldly marked.

ANOUS, Steph., 1826.

1127. Noddy.

ANOUS STOLIDUS.

Anous stolidus (Linn.), Syst. Nat. i. p. 227 (1766); (Audub.), B. Am. pl. 275; (Gould), B. of E. v. pl. 421; (Hewitson), ii. p. 486, pl. cxxxiv. fig. 3; (Seebohm), B. Jap. Emp. p. 300; Gould, B. of Austral. vii. pl. 34; David and Oust. Ois. Chine, p. 529; Saunders, Cat. B. Br. Mus. xxv. p. 136; id. Manual, p. 655; Ridgway, p. 48; Lilford, vi. p. 29, pl. 13; Blanf. F. Brit. Ind. Birds, iv. p. 325.

♂ *ad.* (Brit. Honduras). Forehead nearly white; crown pale grey passing into greyish brown on the nape; lores and orbital region black; cheeks and throat plumbeous; rest of plumage above and below chocolate-brown; wings and tail blackish; bill black, orange at the angle of the gape; legs dusky vinous purple; iris deep brown. Culmen 2·1, wing 10·15, tail 6·2, tarsus 1·0 inch.

Hab. Tropical and subtropical seas; the Atlantic and Pacific coasts of America down to Tristan da Cunha in the Atlantic; the coasts of tropical and subtropical Africa, and of Asia north to Japan; Australia down to about 35° S. lat.; islands of the Pacific up to Laysan, &c., and down to the Galapagos, but not Peru or Chile; is said to have been obtained off the south-east coast of Ireland.

Is essentially an oceanic species. It feeds on small fish, mollusca, medusæ, &c. Unlike the other Terns, it constructs a somewhat bulky nest of twigs, grass, or seaweed, which is placed on a bush or tree, and deposits 1 egg only, which is laid from January to May and September, according to latitude. The eggs are dull and glossless in texture, white, muddy white, or

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buffy white in ground-colour, sparingly marked with pale purplish grey shell spots and reddish brown or dark brown surface spots, and measure about 2·06 by 1·38.

XEMA, Leach, 1819.

1128. Sabine's Gull.

XEMA SABINII.

Xema sabinii (J. Sabine), Trans. Linn. Soc. xii. p. 520, pl. 29 (1818); (Middendorff), Sib. Reise, p. 244, Tab. xxiv. fig. 5, pull.; Tab. xxv. fig. 1, egg (1853); (Naum.), xiii. p. 272, Taf. 272, figs. 3, 4; (Gould), B. of E. v. pl. 429; id. B. of Gt. Brit. v. pl. 67; Newton, P.Z.S. 1871, p. 57, pl. iv. fig. 5 (egg); Dresser, viii. p. 337, pl. 593; Saunders, Cat. B. Br. Mus. xxv. p. 162; id. Manual, p. 657; Ridgway, p. 38; Lilford, vi. p. 32, pl. 14; Tacz. F. O. Sib. O. p. 1046.

♂ *ad.* (Arctic America). Head and upper neck rich dark plumbeous bordered below with black; mantle pale blue-grey; edge of the wing and first five quills black, the latter margined on the inner web, and tipped with white; secondaries and their coverts blue-grey tipped with white; rest of plumage and the tail white; the latter slightly forked; bill blackish, tipped with orange on the upper, and yellow on the lower mandible; edge of eyelids and gape vermilion; legs blackish; iris light brown. Culmen 1·3, wing 11·0, tail 4·6, tarsus 1·4 inch. Sexes alike. In winter the head and neck are white, the ear-coverts and back of head and neck dusky plumbeous. The young have the mantle brownish grey marked with pale brown and dirty white, the crown brownish ashy, and the tail crossed by a subterminal black band.

Hab. The most northern parts Arctic regions of the Old and New Worlds, visiting the British Isles, where it has been obtained on many occasions, the coasts of the North Sea to Norway, Denmark, Holland, N. Germany, and France, and has been recorded from as far south as Switzerland, Austria, and Hungary; in America it has been obtained on the Atlantic side as far south as the Bermudas and Texas, and on the Pacific it visits the coasts of Peru to Callao Bay in numbers. So far as is known, it breeds only from the Taimyr to the Yukon, not in Spitsbergen or Greenland.

In general habits and especially in its flight this Gull is very Tern-like, and in the breeding season associates with the Arctic Tern. It feeds chiefly on insects of various kinds in the breeding season, and small fish and crustaceans in the winter. It breeds in the high north, its nest being a depression in the moss, and its 2 eggs, which are laid late in June or early in

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July, are dull brownish olivaceous, indistinctly blotched, chiefly at the larger end, with dull brown, and measure about 1·72 by 1·30.

RHODOSTETHIA, Macgill., 1842.

1129. CUNEATE-TAILED GULL.

RHODOSTETHIA ROSEA.

Rhodostethia rosea (Macgill.), Mem. Wern. Soc. v. No. xiii. p. 249 (1824); Dresser, viii. p. 343, pl. 594; Murdoch, Exp. Pt. Barrow, p. 123, pls. i. ii.; Saunders, Cat. B. Br. Mus. xxv. p. 167; id. Manual, p. 659; Tacz. F. O. Sib. O. p. 1048; Ridgway, p. 37; Lilford, vi. p. 33, pls. 15, 16; *L. rossii*, Richardson, App. Parry's Second Voy. p. 359 (1825); Naum. xiii. p. 270, Taf. 388, figs. 3, 4; (Gould), B. of Gt. Brit. v. pl. 63.

♂ *ad.* (Disco). Mantle pearl-grey; primaries rather darker, the first with the outer web black nearly to the tip; secondaries tipped with white; rest of the plumage, and tail, which is cuneate, white, the under parts tinged with rose-pink; middle of neck encircled by a black band, broadest behind; bill blackish; legs coral-red; iris dark brown. Culmen 0·95, wing 10·1, tail 4·4, the middle feathers 0·8 longer than the outermost, tarsus 1·1 inch. Sexes alike. In winter the black collar is absent, and the under parts are quite white. The young bird has the crown and hind neck clouded with dusky, the upper parts marked with sooty blackish and buff, and the tail terminated with blackish brown.

Hab. Franz Josef's Land and the Polar seas: straying south in autumn and winter, and has been then recorded once from Yorkshire, several times from Greenland, once from the Færoes, once from Heligoland, once from St. Michael's, Alaska, and numbers have been obtained at Point Barrow; in Asia it inhabits the Arctic Ocean.

But little is known respecting the habits of this Gull, and its nest and eggs have not been discovered.

PAGOPHILA, Kaup, 1829.

1130. IVORY GULL.

PAGOPHILA EBURNEA.

Pagophila eburnea (Phipps), Voy. N. Pole, App. p. 187 (1774); (Naum.), x. p. 341, Taf. 263; Carte, Journ. R. Dubl. Soc. i. pp. 57, 60, pls. 1, 2 (eggs); (Gould), B. of E. v. pl. 437; id. B. of Gt. Brit. v. pl. 62; (Audubon), B. Am. vii. pl. 445; Dresser, viii. p. 349, pl. 595; Saunders, Cat. B. Br. Mus. xxv. p. 301; id. Manual, p. 685; Collett, Ibis, 1888, p. 440, pl. xiii. (nestling and eggs); Lilford, vi. p. 68, pl. 30; ? *L. albus*, Gunnerus, in Leems. Beskrif. Lappl. p. 285 (1767); (Tacz.), F. O. Sib. O. p. 1055; Ridgway, p. 24.

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Mouette blanche, French; *Schnee-Meve*, *Elfenbein-Meve*, German; *Iismaage*, Dan. and Norweg.; *Hvitmåse*, Swed.; *Valkealokki*, Finn.

♂ *ad.* (Spitsbergen). Entire plumage white; bill French-grey at the base and on the culmen, pea-yellow at the tip; legs and feet black; iris dark hair-brown, eyelids brick-red. Culmen 1·5, wing 12·2, tail 5·9, tarsus 1·5 inch. Sexes alike. The young bird is marked with blackish grey.

Hab. The most northern parts of the Polar world, straying south in winter to Britain, Scandinavia, the coasts of Germany and Holland; has once been obtained at the mouth of the Somme in France, and once near Lausanne in Switzerland. In North Asia it occurs in Kamchatka, and throughout Arctic America as far south as New Brunswick and Newfoundland as a rare visitant.

Is generally to be met with in the vicinity of ice-masses, and feeds chiefly on the leavings of walrus and seal hunters, and is very tame and confiding. McClintock found it breeding on Prince Patrick's Island in 1852–53, Malmgren in N.E. Spitsbergen in 1865, and Capt. Johannesen found a breeding colony on a small island off Spitsbergen in August, 1887, and obtained 19 eggs. The nests were composed of green moss, a few stalks and leaves of algæ, a few small wood splinters, feathers, and one or two particles of lichen. The eggs, 1 or 2 in number, are light greyish brown with a faint admixture of yellowish green in ground-colour, and are spotted and blotched with dark brown, and most nearly resemble those of *Larus canus*. In size they measure about 2·36 by 1·32.

RISSA, Stephens, 1826.

1131. Kittiwake.

RISSA TRIDACTYLA.

Rissa tridactyla (Linn.), Syst. Nat. i. p. 224 (1766); (Naum.), x. p. 322, Taf. 262; (Hewitson), ii. p. 493, pl. cxxxvii.; (Gould), B. of Gt. Brit. v. pl. 61; Dresser, viii. p. 447, pls. 607, 608; Seebohm, B. Jap. Emp. p. 294; Saunders, Cat. B. Br. Mus. xxv. p. 305; id. Manual, p. 683; Ridgway, p. 25; Lilford, vi. p. 63, pl. 29; *R. t. pollicaris*, Stejn., in Baird, B., and Ridgway, Water B. N. Am. ii. p. 402 (1884); Tacz. F. O. Sib. O. p. 1052; Ridgway, p. 25; *L. rissa*, Linn. Syst. Nat. i. p. 224 (1766); Gould, B. of E. v. pl. 435.

Mouette tridactyle, French; *Gaviota*, *Gabina*, Span.; *Gaivota*, Portug.; *Gabbiano-terragnola*, Ital.; *Dreizehen-Meve*, German;

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Drieteenige-Meeuw, Dutch; *Tretaaet Maage*, Dan.; *Krykje*, Norweg.; *Ringtjaen*, *Tretåig-Måse*, Swed.

♂ *ad.* (Greenland). Head, neck, upper tail-coverts, tail, and entire under parts pure white; mantle dark French-grey or slate-grey; quills black at the end, the inner primaries with an apical white tip, the first with the outer web black; secondaries and scapulars edged with white; hind toe absent or rudimentary; beak yellow, red at the gape; legs and feet blackish brown; iris brown; edges of eyelids red. Culmen 1·5, wing 11·2, tail 5·2, tarsus 1·25 inch. Sexes alike. In winter the nape and sides and back of neck are streaked with grey. The young bird has the upper parts variegated with black, a mark before the eye and a large patch on the ear-coverts blackish grey; a semi-collar on the hind neck, the first 4 quills and a broad tip to the tail black.

Hab. The Arctic and subarctic regions of the Old and New Worlds as far south as North-west France, the Kurile Islands in Asia, and the Gulf of St. Lawrence in N. America in summer; ranging in winter south to the Caspian, the Mediterranean, and Canaries, and on the American side to the middle United States and Bermuda.

Essentially a bird of the sea cliffs, it is only seen inland when driven by stress of weather, and feeds on small fish, crustaceans, and other maritime animals, which it usually fishes up from the surface of the water. Its flight is soft and easy, and it both swims well and can also dive. It breeds on the ledges of cliffs skirting the sea, often in companies of thousands, and constructs a rather bulky nest of seaweeds and grasses. The eggs, usually 3 in number, are deposited in May or June, and in ground-colour are ochreous grey, sometimes tinged with greenish, or pale greenish olivaceous, clouded and spotted with pale purplish grey and dark brown. In size they measure about 2·9 by 1·53.

1132. Red-legged Kittiwake.

RISSA BREVIROSTRIS.

Rissa brevirostris (Bruch), J. f. O. 1853, p. 103; Saunders, Cat. B. Br. Mus. xxv. p. 312; Tacz. F. O. Sib. O. p. 1053; Ridgway, p. 25; *L. brachyrhynchus* (nec. Richardson), Gould, P.Z.S. 1843, p. 106; *Rissa nivea* (nec. Pallas), Gray, List. B. B. Mus. Anseres, p. 174 (1844); D. G. Elliot, New and Unfig. B. N. Am. ii. pl. 54.

♂ *ad.* Differs from *R. tridactyla* in having the mantle darker, the outer webs and margins of inner webs of the primaries up to the 4th darker, the under wing-coverts greyish slate, but paler than the mantle; bill lemon-yellow with a tinge of green; legs and feet bright red; iris brown.

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Culmen 1·25, wing 12·5, tail 5·6, tarsus 1·25, middle toe with claw 1·95 inch; hind toe very small, sometimes with and sometimes without a claw. The young bird differs from that of *R. tridactyla* in lacking the black band on the wing and on the tail.

Hab. The Bering Sea from the Kamchatkan coasts to the Aleutian and Prybiloff Islands.

In habits it resembles the Kittiwake, and like it breeds on the ledges of almost inaccessible cliffs by the sea, its eggs being also similar in appearance, and measuring about 2·36 by 1·64.

LARUS, Linn., 1766.

1133. Black-headed Gull.

LARUS RIDIBUNDUS.

Larus ridibundus, Linn. Syst. Nat. i. p. 225 (1766); Naum. x. p. 264, Taf. 260; Hewitson, ii. p. 491, pl. cxxxvi. figs. 2, 3; (Gould), B. of E. v. pl. 425; (id.), B. of Gt. Brit. v. pl. 64; Dresser, viii. p. 357, pls. 596, 597, fig. 1; David and Oust. Ois. Chine, p. 520; Seebohm, B. Jap. Emp. p. 295; Saunders, Cat. B. Br. Mus. xxv. 207; id. Manual, p. 665; Blanf. F. Brit. Ind. Birds, iv. p. 300; (Tacz.), F. O. Sib. O. p. 1040; Lilford, vi. p. 39, pl. 19; *L. capistratus*, Temm. Man. d'Orn. ii. p. 785 (1820).

Goéland rieur, French; *Gaivota, Chapalhéta*, Portug.; *Gavina, Gaviota*, Span.; *Gabbiano comune*, Ital.; *Lachmeve, Mohrenkopf*, German; *Kokmeeuw*, Dutch; *Hættemaage*, Dan. and Norweg.; *Skrattmåse*, Swed.; *Naurulokki*, Finn.; *Tschaika*, Russ.; *Yurikamome*, Jap.

♂ *ad.* (S. Russia). Hood brownish black or coffee-brown; mantle pale French-grey; a narrow space round the eye, tail-coverts, tail, and entire under parts white, the last faintly tinged rose-colour; primaries white, with the tips and margins of the inner webs black; secondaries French-grey, the outer ones tipped with blackish; bill, edges of eyelids, legs, and feet lake-red; iris deep brown. Culmen 1·8, wing 12·0, tail, 5·0, tarsus 1·8. In winter the hood is absent, there being a little grey before the eye and on the occiput, and a blackish grey patch behind the eye.

Hab. Europe, north to the Færoes, the Baltic Islands and Archangel, south to the Mediterranean; wintering in Africa, south to Nubia; Asia east to Japan, north to Kamchatka; wintering in India, China, and the Philippines.

In habits it differs from many of its allies in selecting inland marshes for the purpose of nidification. Its flight is easy and

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graceful, and it swims with ease, sitting very lightly on the water. Its note resembles the syllables *kree, kree,* or *kech, kech,* and when uttered by many, resembles harsh laughter. Its food consists of small fish, insects, larvæ, and worms. It breeds on inland marshes, and islands in lakes, usually in large societies, constructing its nest of reeds and dried grass, and in May, or sometimes late in April, deposits 3 eggs, which in ground-colour vary from pale bluish white to dark olivaceous brown, more or less spotted and blotched with deep umber and blackish brown, and measure about 2·2 by 1·47.

1134. Brown-headed Gull.

LARUS BRUNNEICEPHALUS.

Larus brunneicephalus, Jerdon, Madr. Journ. xii. p. 25 (1840); (David and Oust.), Ois. Chine, p. 521; Saunders, Cat. B. Br. Mus. xxv. p. 215; Blanf. F. Brit. Ind. Birds, iv. p. 301.

Dhomra, Hindu.

♂ *ad.* (N.W. India). Differs from *L. ridibundus* in being larger, the hood browner, especially paler on the forehead, and the pattern of the quills (which are blacker) different; the two outer quills black with elongated white subterminal spots, and a little white at the base, the 3rd with more white at base, with the white increasing on the inner ones; bill red, brownish at the tip; legs and feet red; iris white or pale yellow; sides red. Culmen 1·9, wing 13·5, tail 5·2, tarsus 2·0 inch. In winter and immature dress it differs from *L. ridibundus* in the different pattern of the quills.

Hab. Central Asia from Turkestan to Tibet and Mongolia; wintering on the coasts and marshes of Burma, India, and Ceylon, and as far west as Aden.

In general habits this Gull resembles *L. ridibundus.* It breeds on the high tablelands of Tibet in Central Asia, but its nest and eggs appear to be undescribed.

1135. Adriatic Gull.

LARUS MELANOCEPHALUS.

Larus melanocephalus, Natterer, Isis, 1818, p. 816; Naum. x. p. 254, Taf. 259; (Gould), B. of E. v. pl. 427; Dresser, viii. p. 365, pl. 597, fig. 2; Saunders, Cat. B. Br. Mus. xxv. p. 180; id. Manual, p. 667; Lilford, vi. p. 43, pl. 20.

Goéland mélanocéphale, French; *Gabbiano corallino,* Ital.

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♂ *ad.* (Bosphorus). Differs from *L. ridibundus* in having the hood jet black; a small crescentic white patch above and one below the eye; the bill rather stouter and larger; quills white, the first only externally margined with black; bill and legs red; iris brown. Culmen 1·6, wing 12·0, tail 5·0, tarsus 1·9 inch. In winter it differs from *L. ridibundus* in the coloration of the primaries, and the nape and hind neck are much more striated, not clouded, with grey.

Hab. The coasts of the Black Sea and Mediterranean, Spain, Portugal, and South France, straying north as far as England, where it has been obtained once or twice, and the mouth of the Somme, in Northern France. Winters as far south as Nubia.

In habits it resembles *L. ridibundus*, but its cry, though very similar, may be distinguished by a practised ear. It breeds in the eastern portion of its range, on sand-banks and in lagoons, its nest being constructed of seaweed and grass, and in May, or early in June, 2 to 3 eggs are laid, which vary in ground-colour from white to pale stone-ochreous, with pale inky shell-markings and blackish brown surface spots, blotches, and scratches. In size they measure about 2·28 by 1·55.

1136. Bonaparte's Gull.

LARUS PHILADELPHIA.

Larus philadelphia (Ord), in Guthrie's Geogr. 2nd Amer. ed. ii. p. 319 (1815); (Gould), B. of Gt. Brit. v. pl. 65; (Newton), P.Z.S. 1871, p. 57, pl. iv. fig. 6 (egg); Dresser, ix. p. 387, pl. 717; Saunders, Cat. B. Br. Mus. xxv. p. 185; id. Manual, p. 661; Ridgway, p. 36; Lilford, vi. p. 35, pl. 17; *L. bonapartii*, Swains. and Richards. Faun. Bor. Am. Birds, p. 425, pl. 72 (1831).

♂ *ad.* (Canada). Head and neck dark plumbeous black; a narrow, interrupted white line round the eye; mantle dark French-grey; lower neck, upper tail-coverts, tail, and entire under parts white; 1st primary white, but black on the outer web and across the tip, 2nd black across the tip and a little way up the edge of the inner web, the 3rd and 4th with broad subterminal black bands and white tips, pearl-grey on the inner webs, the rest up to the 7th grey with black subterminal bars, the 7th and 8th grey with a small dark margin at the end of the inner web; bill deep black; legs and feet orange-red; iris dark brown. Culmen 1·6, wing 10·3, tail 4·0, tarsus 1·38 inch. In winter the head and neck are white, slightly marked with grey, a grey spot on the ear-coverts, the legs flesh-coloured.

Hab. North America, breeding in the Fur countries and found in winter as far south as Bermuda; a rare straggler to Europe, having been obtained about six times in Britain, and once in Heligoland.

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In habits it resembles *L. ridibundus*, but its flight is more Tern-like, it is very graceful on the wing, and frequently perches on posts and trees. It breeds in colonies, placing its nest, which is constructed of sticks, sometimes intermixed with moss and lichens, on trees and bushes, and in June, or early in July, deposits 3, rarely 4, eggs, which are pale olivaceous green or olivaceous brown with purplish grey shell-markings and blackish brown surface spots and blotches, and which measure about 1·95 by 1·35.

1137. Great Black-headed Gull.

LARUS ICHTHYAETUS.

Larus ichthyaetus, Pall. Reise Russ. Reichs, ii. p. 713 (1773); Dresser, viii. p. 369, pl. 598; Saunders, Cat. B. Br. Mus. xxv. p. 176; id. Manual, p. 669; Blanf. F. Brit. Ind. Birds, iv. p. 299; Lilford, vi. p. 48, pl. 21.

Rybak, Russ.; *Charabalta*, Tartar.

♂ *ad.* (Volga). Head and upper neck jet black; above and below the eye a white spot; mantle French-grey; lower neck, upper back, tail, and under parts white; primaries white, the first with the outer web, and a bar near the tip black, the rest with subterminal black bars; secondaries French-grey broadly tipped with white; beak yellow, crossed by a broad red patch, and near the tip a black bar; legs yellow, webs orange; iris dark brown. Culmen 3·4, wing 18·8, tail 7·5, tarsus 2·8 inch. In winter the head is white, more or less streaked with brownish black.

Hab. South-eastern Europe, but has been obtained in Greece, Hungary, Sardinia, Switzerland (?), and once in the south-west of England; North-east Africa in winter, south to Nubia; Palestine and Asia Minor; Asia, east to Eastern Turkestan, Mongolia, and Tibet; south to India, Burma, and Ceylon in winter.

Frequents the sea coasts, large rivers, lakes, &c., and like its allies feeds on small fish, insects, &c. I do not find any definite information respecting its breeding habits, but eggs from Sarepta, on the lower Volga, are dull stone-drab in ground-colour, streaked and blotched with light and dark umber-brown, and measure 2·95 by 2·8.

1138. Saunders's Gull.

LARUS SAUNDERSI.

Larus saundersi (Swinhoe), P.Z.S. 1871, pp. 273, 421, pl. xxii.; (David and Oust.), Ois. Chine, p. 522; (Tacz.), F. O. Sib. O. p. 1045: Saunders, Cat. B. Br. Mus. xxv. p. 183; *Gavia kittlitzii*, Swinhoe, Ibis, 1860, p. 68 (nec. Bruch); *L. schimperi*, Schlegel (nec. Bruch), Mus. Pays-Bas, Lari, p. 40 (1863).

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♂ *ad.* (China). Differs from *L. ridibundus* in being smaller, in having the hood bluish black, the mantle rather darker, the inner secondaries chiefly grey, the rest white; 1st primary white, with a mere hair line of black on the basal half of the outer web, and a marginal black band on the inner web; the 2nd white exteriorly, black on the inner web to the subapex; 3rd similar but with more black, which extends subapically over the outer web; 4th grey basally, barred and margined with black, and broadly tipped with white; 5th the black restricted to the inner web; 6th and upwards grey, with paler tips and inner borders; bill short and stout, black; inside of mouth vermilion; legs tile-red, claws black; iris black; edge of eyelids black. Culmen 1·4, wing 11·0, tail 4·4, tarsus 1·6 inch. In winter the head is white with little dark grey on the occiput.

Hab. Eastern Siberia (Sidemi); Mongolia, China, Corea, and Japan in winter.

Resembles *L. ridibundus* in its general habits and food, and frequents inland waters and rivers as much if not more than the sea coasts. Nothing is as yet known respecting its nidification.

1139. Little Gull.

LARUS MINUTUS.

Larus minutus, Pall. Reise Russ. Reichs, iii. p. 702 (1771); Naum. x. p. 242, Taf. 258; Hewitson, ii. p. 490, pl. cxxxiv. fig. 1; (Gould), B. of E. v. pl. 428; id. B. of Gt. Brit. v. pl. 66; Dresser, viii. p. 373, pls. 599, 599A; Saunders, Cat. B. Br. Mus. xxv. p. 173; id. Manual, p. 663; (Tacz.), F. O. Sib. C. p. 1043; Lilford, vi. p. 37, pl. 18; Ridgway, p. 36.

Mouette pygmée, French; *Gaviota*, Span.; *Gabbianello*, Ital.; *Zwergmöwe*, German; *Dwerg-meeuw*, Dutch; *Dværgmaage*, Dan.; *Dvärgmås*, Swed.; *Pikku-lokki*, Finn.; *Tschaika-malaya*, Russ.

♂ *ad.* (Ladoga). Hood deep black; lower neck, rump, upper tail-coverts, tail, and under parts white, the last tinged with rose-pink; mantle delicate French-grey; quills grey broadly edged with white, the margins of the inner webs smoke-grey; under wing-coverts dark smoke-grey; bill blackish lake-red; legs and feet vermilion-red; iris dark brown. Culmen 0·9, wing 8·8, tail 3·6, tarsus 0·95 inch. In winter the head is white, the crown and nape tinged with grey, the legs and feet yellowish red.

Hab. North-eastern Europe; rare in Norway and Sweden; Finland to Uleåborg; Russia to Archangel; has once been obtained in the Færoes; of irregular occurrence in Britain; in winter it ranges south to the Mediterranean and North Africa; North Asia, east to the Sea of Ochotsk, but rare in South-east Siberia,

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and has not been recorded from Mongolia or China; has once been obtained in India; an accidental straggler to Bermuda and the eastern United States (Long Island).

Frequents inland waters and marshes, feeding on small fish and insects. Its flight is graceful and easy, and its note is a laughing *kerr, arrr, arrr arr*, which it utters when disturbed. It breeds in large companies, in marshy localities inland, constructing a rather loosely formed nest of flag-leaves, grass, straws, &c., which is placed on almost floating islands, and late in May or early in June lays 3 to 4 eggs, which are not unlike some varieties of the Arctic Tern, greenish olive in ground-colour with blackish grey shell-markings and dark brown surface spots and blotches, in size measuring about 1·66 by 1·19.

I have not described the young of these Black-headed Gulls, as they all resemble the adult bird in winter dress, but have the upper parts brown or marked with brown. The sexes are alike.

1140. Common Gull.

LARUS CANUS.

Larus canus, Linn. Syst. Nat. i. p. 224 (1766); Naum. x. p. 301, Taf. 261; Hewitson, ii. p. 495, pl. cxxxviii.; Gould, B. of E. v. pl. 437; id. B. of Gt. Brit. v. pl. 60; Dresser, viii. p. 381, pl. 600; David and Oust. Ois. Chine, p. 517; Seebohm, B. Jap. Emp. p. 293; Saunders, Cat. B. Br. Mus. xxv. p. 277; id. Manual, p. 671; Tacz. F. O. Sib. O. p. 1033; Ridgway, p. 33; Lilford, vi. p. 49, pl. 22; *L. niveus*, Pall. (nec. Bodd.), Zoog. Ross. As. ii. p. 320, Tab. 64 (1811); Tacz. F. O. Sib. O. p. 1034.

Goéland cendré, French; *Gavinote*, Span.; *Gavina*, Ital.; *Sturmmöwe*, German; *Kleine Zeemeeuw*, Dutch; *Stormaage*, Dan.; *Fiskemaage*, Norweg.; *Fiskmåse*, Swed.; *Kalalokki*, Finn.; *Sisaja-Tschaika, Klusha*, Russ.

♂ *ad.* (Sweden). Head, neck, tail-coverts, tail, and entire under parts pure white; mantle delicate light French-grey; 1st primary black, with a broad white bar close to the tip, the 2nd with a smaller bar, the 3rd with merely a white spot near the tip; inner primaries French-grey with black bars and white tips; secondaries with broad white tips; bill greenish yellow; legs greenish grey; iris golden brown, in very old birds greyish white; orbital ring vermilion. Culmen 1·8, wing 14·0, tail 5·5, tarsus 1·85 inch. In winter the head and nape are streaked with dull brown.

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Hab. Europe generally, north to about 53° N. lat. and of rare occurrence in Iceland; wintering in the Mediterranean and the Nile valley; Eastern Asia, north to Kamchatka; Japan, Corea, and China; wintering in the Persian Gulf; has once occurred in Labrador.

In general habits it resembles its allies, and is not found only on the sea but tolerably far inland, where it feeds on the worms turned up by the plough, its food consisting of small fish, sand-eels, mollusca, and small crustacea, worms, and insects. Its flight is light and buoyant, and its cry is shrill and somewhat harsh. It breeds both on the coast and on inland lakes, making a nest of seaweed, grass, &c., and in May deposits 2 or 3, usually 3, eggs, which are brownish olive, marked with dull purplish brown shell blotches and dark brown surface spots and blotches, in size measuring about 2·29 by 1·63.

In North America the present species is replaced by a slightly smaller species, *L. brachyrhynchus*, Richardson, which has once been obtained in the Kurile Islands.

1141. Slender-billed Gull.

LARUS GELASTES.

Larus gelastes, Thienem. Fortpflanz. Vög. Eur. pt. v. p. 22, No. 351 (1838); Dresser, viii. p. 389, pl. 601, fig. 2; Saunders, Cat. B. Br. Mus. xxv. p. 230; Blanf. F. Brit. Ind. Birds, iv. p. 303; *L. tenuirostris*, Temm. Man. d'Orn. iv. p. 478 (1840); *L. columbinus*, Golowatschow, Bull. Soc. Mosc. xxvii. p. 435, Tab. iv. (1854).

Gabbiano roseo, Ital.

♂ *ad.* (Spain). Head, neck, tail, and entire under parts white, the under parts suffused with delicate rose-pink; 1st primary with the outer web black except near the tip, and tipped with black; 2nd, 3rd, and 4th with the outer web white, the inner brownish French-grey, becoming dark brown on the edge, all the quills broadly black at the tip; mantle pearl-grey; wing-coverts rather darker; secondaries without white margins; bill red; legs, feet, and edges of eyelids coral-red; iris pale straw-yellow, nearly white. Culmen 2·1, wing 12·0, tail 4·5, tarsus 2·1 inch. Sexes alike, and in winter scarcely differing, but the bill is orange-yellow and the legs lemon-yellow.

Hab. The coasts of the Mediterranean; East Africa to Keneh in Upper Egypt and Jeddah on the Red Sea; West Africa south to Senegal; Asia Minor, the Black Sea and the Caspian, east to

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Mesopotamia, the Persian Gulf, and Makran coasts of Baluchistan and Sind.

Is essentially a sea bird, being seldom found inland except some short way up the larger rivers. It feeds on small fish and insects of various kinds. For breeding purposes it selects a sand-bank or the dry portions of a marsh or an island in a lagoon, where it nests in colonies. I found it nesting in May in the marismas of the Guadalquivir, on the dried mud of an island in the lagoon, constructing a somewhat loosely built nest of sticks and a few Flamingoes' feathers, the number of eggs being 3, sometimes only 2. These were white in ground-colour, with a faint rosy blush when fresh, with pale inky grey shell-markings and black or blackish brown surface spots and blotches, some being only sparingly marked, whereas others are very boldly and profusely blotched, chiefly at the larger end. In size they measure about 2·95 by 1·53.

1142. Audouin's Gull.

LARUS AUDOUINI.

Larus audouini, Payraudeau, Ann. Sc. Nat. viii. p. 462 (1826) ; Gould, B. of E. v. pl. 438 ; Dresser, viii. p. 395, pl. 601, fig. 1 ; Saunders, Cat. B. Br. Mus. xxv. p. 271.

Gabbiano côrso, Ital.

♂ *ad.* (Toro). Head, tail, and entire under parts white ; mantle and rump pearl-grey, the lower hind neck rather paler ; first two primaries black, with a large white spot near the tip of the inner web, the rest pearl-grey, black towards the tip, and tipped with white ; under parts with a faint rose tinge in the freshly killed bird ; bill coral-red with a black band in front of the angle, the tip yellow ; legs olive-green ; iris hazel ; edge of the eyelids coral-red. Culmen 2·35, wing 15·7, tail 6·5, tarsus 2·4 inch. Sexes alike.

Hab. The western Mediterranean islands, rarer on the coasts of the mainland, occurring as far west as the Straits of Gibraltar, and sometimes as far east as the Greek Archipelago.

In habits it appears to resemble the Herring-Gull, and is essentially a sea bird, breeding on the rocks of the small islands in colonies apart from its congeners, and depositing 1 or 2 eggs, which are stone-buff with a slight olivaceous tinge, with inky grey shell-markings and blackish surface spots and blotches, and measure about 2·5 by 1·73.

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1143. Black-tailed Gull.

LARUS CRASSIROSTRIS.

Larus crassirostris, Vieill. Nouv. Dict. xxi. p. 508 (1818); David and Oust. Ois. Chine, p. 519; Seebohm, B. Jap. Emp. p. 293; Tacz. F. O. Sib. O. p. 1037; Saunders, Cat. B. Br. Mus. xxv. p. 227; *L. melanurus*, Temm. Pl. Col. livr. 77, pl. 459 (1828); id. and Schlegel, Faun. Jap. Aves, p. 132, Tab. 88.

Umineko, Jap.

♂ *ad.* (Japan). Head, neck, under parts and upper tail-coverts white; mantle slate-grey; tail white, the base pale grey, all except the outermost feather on each side crossed by a broad subterminal black band; the five outer primaries blackish with white tips, increasing in size inwards; scapulars and secondaries edged with white; under wing-coverts white; bill greenish yellow, becoming orange at the tip, and crossed by a black band; legs and feet fleshy brownish; iris pale straw-yellow, the edge of the eyelids vermilion. Culmen 2·5, wing 15·5, tail 6·0, tarsus 2·3 inch. In winter similar, but with a little greyish brown on the head and nape.

Hab. The Ussuri country, Eastern Siberia, the coasts of the Sea of Japan, and Japan, the Island of Saghalien, and China south to about 22° N. lat.

Is easily recognizable from *L. canus* (which it somewhat resembles) by the broad black band on the tail; it frequents the sea coast, large rivers and lakes, and is one of the commonest species in Japan and North China. I find but little on record respecting its nidification, excepting that it nests on rocks, depositing from the middle of May to the early part of June 3 eggs, which vary in ground-colour from ochreous grey to pale olivaceous, and are spotted, blotched, and scratched with blackish brown or yellowish brown, in size measuring about 2·50 by 1·75.

1144. Herring-Gull.

LARUS ARGENTATUS.

Larus argentatus, Gmel. Syst. Nat. i. p. 600 (1788); Naum. x. p. 379, Taf. 266; Hewitson, ii. p. 499, pl. cxl.; Gould, B. of E. v. pl. 434; id. B. of Gt. Brit. v. pl. 59; Dresser, viii. p. 399, pl. 602, fig. 1; Saunders, Cat. B. Br. Mus. xxv. p. 260; id. Manual, p. 673; Ridgway, p. 30; Lilford, vi. p. 51, pl. 23; *L. smithsonianus*, Coues Proc. Philad. Ac. 1862, p. 296; Ridgway, p. 31.

Goéland argenté, French; *Gaivota, Alcatraz*, Portug.; *Gaviota, Gavinot*, Span.; *Silbermöwe*, German; *Zilvermeeuw*, Dutch;

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Graa-Havmaage, Dan.; *Säing, Stor-Graamaage*, Norweg.; *Gråtrut*, Swed.; *Harmaa-lokki*, Finn.; *Tschaika-serebristarga*, Russ.

♂ *ad.* (Orkneys). Head, neck, rump, tail, and entire under parts white; mantle delicate light French-grey, the larger wing-coverts, secondaries, and scapulars broadly tipped with white; first primary blackish, towards the tip white with a subapical black band, the next two grey at the base, then black with a large white spot at the tip, the rest grey, subapically black, and tipped with white; beak pale yellow with a large red spot at the angle of the lower mandible; legs and feet flesh-colour; iris yellowish grey, the edge of the eyelids yellow. Culmen 2·65, wing 16·7, tail 6·75, tarsus 2·5. In winter similar, but the head and neck are striated with pale brown.

Hab. Northern Europe to the North Cape, east to the White Sea; rare in Greenland; in winter south to the Mediterranean basin, Black and Caspian Seas; America, from the high north to Maine, passing south in winter to the Bermudas, Cuba, Mexico, and Southern California.

In the winter season it frequents the coasts, inlets, and estuaries, where it finds small fish, especially herring fry, plentiful, for its food consists of small fish, fish fry, mollusca, crustaceans, clams, mussels, &c.; the last it takes up in the air to some height and drops on the stones to break the shell, and it also visits ploughed land in search of worms and insects. It is also a great egg robber. It nests on cliffs, small islands, and in America even on trees, sometimes building a bulky nest of grass straws and dry herbage, at others the nest is a mere depression in the ground with scarcely any lining. In May, 3 eggs are deposited, which in ground-colour vary from brownish grey to dull olive-brown with violet-grey shell blotches and dark brown surface spots and blotches, in size measuring about 2·8 by 1·9.

1145. Subsp. Larus cachinnans.

Larus cachinnans, Pall. Zoogr. Ross. As. ii. p. 318; Saunders, Cat. B. Br. Mus. xxv. p. 266; id. Manual, p. 674; Tacz. F. O. Sib. O. p. 1030; *L. leucophæus*, Licht. Nomencl. Av. p. 99 (1854); Dresser, viii. p. 411, pl. 602, fig. 2; *L. michahellesii*, Bruch, J. f. O. 1855, p. 282.

Gabbiano reale, Ital.; *Chochotunja*, Russ.

♂ *ad.* (Algiers). Differs from *L. argentatus* in having the mantle darker, the ring round the eye and gape orange-red, the bill brighter coloured, and the legs and feet gamboge-yellow. Culmen 3·1, wing 18·5, tail 7·7, tarsus 2·85 inch.

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Hab. Southern Europe, in the west north to the Gulf of Gascony, in the east to the Dvina; the entire Mediterranean basin; Africa, in the west south to Angola, in the east to Khartoum; Madeira, the Canaries, and Azores: the Black Sea, Caspian, and Aral, eastward to Dauria; wintering in Northern India and on the coasts of Baluchistan and Sind; has once occurred in England.

In habits this Gull does not differ from *L. argentatus*, and its note is a similar *hă-hă-hă*. Nor does it differ in nidification, and its eggs are similar.

1146. Subsp. Larus vegæ.

Larus vegæ, Stejn. Auk, 1888, p. 310; Saunders, Cat. B. Br. Mus. xxv. p. 269; Tacz. F. O. Sib. O. p. 1028; Ridgway, p. 30; *L. occidentalis* (nec. Aud.), Swinhoe, P.Z.S. 1863, p. 326; David and Oust. Ois. Chine, p. 520; *L. cachinnans* (nec. Pall.), David and Oust. op. cit. p. 519; Seebohm, B. Jap. Emp. p. 291.

♂ *ad.* (E. Siberia). Differs from *L. cachinnans* in having the mantle darker and bluer, while the legs and feet are pale flesh-colour. Culmen 2·9, wing 17·9, tail 7·55, tarsus 2·69 inch.

Hab. The Arctic coasts of Siberia from the Taimyr Peninsula to Bering Straits and Kamchatka; Japan and the coasts of China south to the Bonin Islands and Formosa in winter, as also the North-western American coasts down to California.

In habits this Gull does not differ from *L. argentatus*, and its eggs are described as being similar and measuring about 2·91 by 1·85.

1147. Lesser Black-backed Gull.

LARUS FUSCUS.

Larus fuscus, Linn. Syst. Nat. i. p. 225 (1766); Naum. x. p. 419, Taf. 267; Gould, B. of E. v. pl. 431; id. B. of Gt. Brit. v. pl. 56; Dresser, viii. p. 421, pl. 603; Saunders, Cat. B. Br. Mus. xxv. p. 250; id. Manual, p. 675; Ridgway, p. 28; Lilford, vi. p. 55, pl. 24.

Goéland à pieds jaunes, French; *Alcatraz*, Portug.; *Zafferano*, Ital.; *Heringsmöwe*, German; *Kleine Mantelmeeuw*, Dutch; *Sildemaage*, Dan. and Norweg.; *Sillmåse*, Swed.; *Selkälokki*, Finn.; *Syeldieloff*, Russ.

♂ *ad.* (Sweden). Head, neck, tail, and under parts white; back and wings black, the former faintly washed with slate; first primary with a

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white bar near the tip, the rest narrowly, the secondaries broadly tipped with white; bill light yellow, the lower mandible with a bright red patch towards the tip; iris straw-yellow; edge of eyelids vermilion; legs and feet yellow. Culmen 2·4, wing 15·7, tail 6·0, tarsus 2·1 inch.

Hab. Northern Europe, as far north in Sweden as Haparanda, and in Norway as the Russian frontier, east to the Dvina, west to the Færoes and Great Britain, south to the Mediterranean; wintering in the Canaries, Madeira, Africa south to Senegambia and Nubia; rare in the North Caspian; the Persian Gulf in winter.

In habits it does not differ from its allies. It is chiefly found on the sea coasts, and feeds on small fish, crustacea, land and marine mollusca, worms, &c. Its cry is loud, mellow, and plaintive, and it also utters a cackling or laughing cry. It breeds on cliffs, in some parts on islands in lakes, and in marshes, constructing a rather bulky nest of grass, moss, &c., and early in May deposits 2 to 3, usually 3, eggs, which in ground-colour vary from light greenish blue to pale olivaceous brown, and are spotted and blotched with violet-grey underlying shell-markings and dark brown surface blotches. In size they measure about 2·75 by 1·96.

1148. Siberian Gull.

LARUS AFFINIS.

Larus affinis, Reinhardt, Vidensk. Meddel. 1853, p. 78; Dresser, viii. p. 417; Ridgway, p. 29; Saunders, Cat. B. Br. Mus. xxv. p. 254; Tacz. F. O. Sib. O. p. 1026; Blanf. F. Brit. Ind. Birds, iv. p. 304.

♂ *ad.* (Petchora). Differs from *L. fuscus* in being larger, with a proportionately shorter wing, the mantle paler, being dark dull slate-blue; quills black, with a distinct dark slate pattern on the inner web, the first with a white spot near the tip, several others slightly tipped with white, the inner secondaries broadly white tipped; bill and legs as in *L. fuscus*; orbital ring deep orange. Culmen 2·75, wing 17·4, tail 7·0, tarsus 2·8 inch.

Hab. Northern Europe and Asia from the Dvina to the Yenesei; wintering on the coasts of Baluchistan, Western India, Malabar, Southern Arabia, Somaliland, Aden, and Socotra; has once been obtained in Heligoland, and the type in South Greenland.

In habits it resembles *L. fuscus*, and its eggs are like those of that species.

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1149. Slaty-backed Gull.

LARUS SCHISTISAGUS.

Larus schistisagus, Stejneger, Auk, 1884, p. 231 ; Tacz. F. O. Sib. O. p. 1024 ; Saunders, Cat. B. Br. Mus. xxv. p. 258 ; Ridgway, p. 29 ; *L. marinus* (nec. Linn.), Swinhoe, Ibis, 1874, p. 165 ; Seebohm, B. Jap. Emp. p. 291.

Ō-seguro-kamome, Jap.

♂ *ad.* (Kuriles). Head, neck, tail, and under parts white ; wings and mantle dark slate ; scapulars and secondaries tipped with white ; quills black, the inner webs of the outer ones grey ; third quill with a distinct white spot between the grey and the black on the inner web ; bill rich yellow with a red subterminal spot on the lower mandible ; legs and feet dull purplish flesh-colour. Culmen 2·28, wing 18·0, tail 7·6, tarsus 2·7 inch.

Hab. Coasts of Eastern Siberia, the Bering and Okhotsk Seas ; the Kurile Islands, and Northern Japan in winter.

In habits it does not differ from its allies. It breeds in the Kurile Islands, but its eggs appear to be undescribed.

1150. Greater Black-backed Gull.

LARUS MARINUS.

Larus marinus, Linn. Syst. Nat. i. p. 225 (1766) ; Naum. x. p. 438, Taf. 268, 269 ; Hewitson, ii. p. 501, pl. cxli. fig. 1 ; Gould, B. of E. v. pl. 430 ; id. B. of Gt. Brit. v. pl. 55 ; Audub. B. Am. pl. 241 ; Dresser, viii. p. 427, pl. 604 ; Saunders, Cat. B. Br. Mus. xxv. p. 241 ; id. Manual, p. 677 ; Ridgway, p. 28 ; Lilford, vi. p. 57, pl. 25.

Goéland à manteau noir, French ; *Gaivota, Alcatraz*, Portug. ; *Gavinòt*, Span. ; *Mugnaiaccio*, Ital. ; *Mantel-mōwe*, German ; *Mantelmeeuw*, Dutch ; *Veidi-bjalla, Svart-bakur*, Icel. ; *Svartbag-maage*, Dan. ; *Hafmaage*, Norweg. ; *Hafstrut*, Swed. ; *Merilokki*, Finn.

♂ *ad.* (Sweden). Head, neck, tail, and entire under parts white ; mantle black with a slaty tinge ; primaries black washed with slate on the inner web, the first and second with a broad white tip, the second with a black band across the white, the third with a narrow white tip, the inner ones with the terminal portion slate-grey, with a black subterminal band and white tip ; secondaries and scapulars tipped with white ; bill light yellow with a red patch towards the end of lower mandible ; legs and feet greyish white with a fleshy tinge ; iris hazel ; edge of eyelids vermilion. Culmen 3·5, wing 20·0, tail 9·0, tarsus 3·0 inch.

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Hab. Northern Europe, east to the Petchora river, north in Norway to the Russian frontier, and in Sweden to about Sundsvall; the Færoes and Iceland; rarer in Greenland; fairly common in the northern part of Britain; in winter migrating south to the Canaries and Mediterranean, where it is rare, east to Egypt, and the Volga; the Atlantic coasts of North America, south to Virginia and Florida.

It feeds on fish and offal, and being extremely predatory in its habits it destroys large numbers of the eggs and young of water birds, and will kill and devour wounded birds. Its note is a loud clear cry, *yow, yow, yow*, and it often utters a hoarse cackle when on the wing. It nests not only on the sea coast but also about inland waters, making a large nest of dry grass, heather, wool, moss, and sometimes feathers, which it places on a rock or on the ground, and in May deposits 2 to 3 eggs, which are lighter or darker olive-brown, with dark or brown blotches, and in size measure about 3·0 by 2·13.

1151. Glaucous Gull.

LARUS GLAUCUS.

Larus glaucus, Fabricius, Faun. Groenl. p. 100 (1780); Naum. x. p. 350, Taf. 264; Hewitson, ii. p. 504, pl. cxli. fig. 2; Gould, B. of E. v. pl. 432; id. B. of Gt. Brit. v. pl. 57; Dresser, viii. p. 433, pl. 605; Seebohm, B. Jap. Emp. p. 290; Saunders, Cat. B. Br. Mus. xxv. p. 289; id. Manual, p. 679; Ridgway, p. 26; Lilford, vi. p. 59, pl. 26; *L. barrovianus*, Ridgway, Auk, 1886, p. 330; Tacz. F. O. Sib. O. p. 1019.

Eismöwe, German; *Burgemeester*, Dutch; *Hvítmáfr*, Icel.; *Graamaage*, Dan.; *Stor Hvidvinget-maage*, Norweg.; *Hvittrut*, Swed.; *Iso-lokki*, *Pormestari*, Finn.; *Morskaia-Tschaika*, Russ.

♂ *ad.* (Greenland). Mantle very pale blue-grey, rest of plumage pure white; bill yellow with a red patch towards the tip of the lower mandible; legs light flesh-colour; iris light yellow, the edge of the eyelid vermilion. Culmen 3·1, wing 18·6, tail 8·5, tarsus 2·8 inch.

Hab. The Arctic regions of the Old and New Worlds; in winter passing south to the coasts of Europe as far south as the Mediterranean (rarely), the Black Sea, and North Caspian; in Asia to Japan; in America to Long Island and the Great Lakes.

In habits it resembles *L. marinus*, and like that bird builds a bulky nest of dry grass, seaweeds, &c., or utilizes a depression

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in the ground, lining it scantily with grass. Its 3 eggs resemble those of *L. marinus*, but are subject to rather more variation both in ground-colour and markings.

1152. Iceland Gull.

LARUS LEUCOPTERUS.

Larus leucopterus, Faber, Prodrom. Isl. Orn. p. 91 (1822); Naum. x. p. 367, Taf. 265; Hewitson, ii. p. 498, pl. cxxxix. figs. 1, 2; Dresser, viii. p. 439, pl. 606; Saunders, Cat. B. Br. Mus. xxv. p. 295; id. Manual, p. 681; Tacz. F. O. Sib. O. p. 1023; Ridgway, p. 26; Lilford, vi. p. 62, pl. 28; *L. islandicus*, Edmonst. Mem. Wern. Soc. iv. p. 506 (1823); Gould, B. of E. v. pl. 433; id. B. of Gt. Brit. v. pl. 58.

Goeland leucoptère, French; *Polarmöwe*, German; *Kleine Burgemeester*, Dutch; *Hvítmáfr*, Icel.; *Hvidvinget-Maage*, Dan. and Norweg.; *Hvitvingad Trut*, Swed.

♂ *ad.* (Greenland). Differs from *L. glaucus* in being smaller, with a proportionately longer wing. Culmen 2·5, height of bill at base 0·65, wing 16·8, tail 7·6, tarsus 2·5 inch.

Hab. Jan Mayen Island and Greenland in summer; in winter to Iceland, the Færoes, Great Britain, Scandinavia (rarely), once in Finland, and as far south as the Gulf of Gascony in severe winters; Atlantic coasts of North America, south, in winter, to Massachusetts and the Great Lakes.

In habits it does not differ from *L. glaucus*. It breeds in Greenland, its nest being a mere depression in the ground, slightly lined with a few grass-bents, and it deposits 2 to 3 eggs, which resemble those of *L. glaucus*, but are smaller, measuring about 2·78 by 1·87.

1153. Glaucous-winged Gull.

LARUS GLAUCESCENS.

Larus glaucescens, Naum. Vög. Deutschl. x. p. 351 (1840); Seebohm, B. Jap. Emp. p. 290; Saunders, Cat. B. Br. Mus. xxv. p. 284; Tacz. F. O. Sib. O. p. 1019; Ridgway, p. 27.

♂ *ad.* (Alaska). Differs from *L. glaucus* in wing pattern, and in having the mantle blue-grey; scapulars, secondaries, and primaries broadly tipped with white, the colour of the quills being two shades of ashy grey; 1st quill broadly terminated with white, the 2nd with a white subterminal spot on each web, the 3rd whitish at the apex of the wedge of the grey inner web, the 4th pale grey on the greater part of both webs, the darker colour being as a distinct bar, the 5th with a smaller dark bar surmounted by white, the 6th similar, but the bar reduced to a spot on

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the outer web, the rest grey at the base and tipped with white; bill yellow, red at the angle of the lower mandible; legs and feet light flesh-colour; iris clear grey. Culmen 2·7, wing 17·0, tail 7·9, tarsus 2·6 inch.

Hab. The coasts of the North Pacific and Bering's Sea; Kamchatka; the Aleutian and Commander Islands; in winter south to Japan and California.

In habits it resembles *L. glaucus*. It breeds abundantly on Bering and Copper Islands, frequently on isolated rocks and small islands, or on the ledges of rugged cliffs overhanging the sea, the nest being a depression, lined with dry grass, and early in July, 2 to 3 eggs are deposited, which resemble those of *L. glaucus*, but are somewhat smaller, greener, and more boldly spotted.

STERCORARIUS, Briss., 1760.

1154. GREAT SKUA.

STERCORARIUS CATARRHACTES.

Stercorarius catarrhactes (Linn.), Syst. Nat. i. p. 226 (1766); (Naum.), x. p. 470, Taf. 270; (Hewitson), ii. p. 505, pl. xlii.; (Gould), B. of E. v. pl. 439; (id.), B. of Gt. Brit. v. pl. 78; Dresser, viii. p. 457, pl. 609; (Saunders), Cat. B. Br. Mus. xxv. p. 315; (id.), Manual, p. 687; (Lilford), vi. p. 69, pl. 31; *Cataracta skua*, Retz. Faun. Suec. p. 161 (1800); Ridgway, p. 21.

Labbe cataracte, French; *Grosse Raubmöwe*, German; *Groote Jager*, Dutch; *Havskúmur*, *Hakallaskumur*, Icel.; *Stor-Kjove*, Dan.; *Skua*, *Storjo*, Norweg.; *Storlabb*, Swed.

♂ *ad.* (Færoes). General coloration dark brown marked with yellowish red; crown, rump, and upper tail-coverts almost uniform dark brown, the feathers on the rest of the upper parts with rufous or rusty yellowish tips; basal half of primaries white forming an alar patch; tail blackish brown, marked with white at the extreme base; throat feathers with yellowish shaft markings; abdomen tinged, and flanks slightly marked with rufous; bill black, paler at the base; legs and feet blackish; iris dark brown. Culmen 2·4, wing 15·6, tail 7·0, tarsus 2·7 inch. Sexes alike. The young bird is more distinctly marked with yellowish, and has more white on the wings and tail.

Hab. Iceland, the Færoes, and Shetlands in summer; rarer in South Greenland; scarce in Scandinavia; in winter south to the Straits of Gibraltar; a rare straggler to Germany, Switzerland, N. Italy, and the Mediterranean.

Essentially predatory in its habits the Skua seldom takes the trouble to fish for itself, but despoils the Gulls of their

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prey, and also takes numbers of young sea birds and eggs; it also feeds on carrion when obtainable. Its cry is a somewhat harsh *skui, skui*, and when disturbed and flying over its nesting place it utters a cry not unlike the cackling of a Goose. Its nest is a depression in the mossy ground on islands and high moorlands, scantily lined with dry grass and moss, and though not actually breeding in societies, several pairs are frequently found near together. Two eggs are deposited late in May, which are dull greenish olive-brown, some greener and others browner in tinge, marked with dark brown, and measure about 2·87 by 1·86.

1155. Pomatorhine Skua.

STERCORARIUS POMATORHINUS.

Stercorarius pomatorhinus (Temm.), Man. d'Orn. p. 514 (1815); (Naum.). x. p. 487, Taf. 271; (Middend.), Sib. Reise, Zool. p. 240, Taf. 24, fig. 1 (egg); (Gould), B. of E. v. pl. 440; id. B. of Gt. Brit. v. pl. 79; Newton, P.Z.S. 1861, pl. xxxix. fig. 3 (egg); Dresser, viii. p. 463, pl. 610; Blanf. F. Brit. Ind. Birds, iv. p. 330; Saunders, Cat. B. Br. Mus. xxv. p. 322; id. Manual, p. 689; Tacz. F. O. Sib. O. p. 1061; Ridgway, p. 22; Lilford, vi. p. 74, pls. 32, 33; Boyce Hill, Ibis, 1900, p. 526, pl. xi. (eggs).

Labbe Pomarin, French; *Mandrião*, Portug.; *Gabbiano nero*, Ital.; *Mittlere-Raubmöwe*, German; *Middelste-Jager*, Dutch; *Middelkjove*, Dan.; *Bredhalet-Jo*, Norweg.; *Bredstjertad Labb*, Swed.; *Leveapyrstöinen-räiskä*, Finn.; *Pomornik-srednie, Fómka*, Russ.

♂ *ad.* (Færoes). Crown, nape, sides of head, back, wings, and tail deep brown or blackish brown; fore back slightly marked with white; primaries with basal portion and shafts white; middle tail-feathers elongated but blunt; neck all round, chin, and under parts white, the first tinged with golden yellow; a band across the breast and flanks marked and barred with dark brown; under wing-coverts, axillaries, lower abdomen, crissum, and under tail-coverts dark brown, the three last slightly marked with white; bill dark horn, bluish at the base; legs and feet blackish; iris brown. Culmen 1·8, wing 13·8, tail 8·75, the middle feathers 2·7 longer than the lateral ones, tarsus 2·0 inch. In adult birds the middle rectrices are much elongated and almost spatulate, having a curious twist in the shaft which brings the lower surface of the vanes towards the tip to meet in a vertical direction.

Hab. The high northern portions of the Old and New Worlds, in autumn and winter ranging to the British Islands, Scandinavia, and continental Europe south to the Mediterranean, where it is comparatively rare, and on the West African coast south to 23° S.; Northern Siberia, Kamchatka, and the

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Commander Islands, south in winter to Japan, Moulmein (once), and Cape York in Australia; Northern North America, in winter south to New Jersey, the Great Lakes, and Callao Bay.

In habits this Skua does not appreciably differ from its allies, and feeds on fish, lemmings, and carrion, and also to a large extent plunders the smaller Gulls and Terns of their prey. Its cry is a short harsh *crah*. It was first found breeding on the Taimyr by von Middendorf in 1843, later in Greenland, and in 1897 on the Yenesei by Mr. Popham. The nest is a hollow in a drier spot in marshy ground, and the 2 eggs vary in ground-colour from stone-grey with a greenish tinge to brownish olivaceous, and are spotted and blotched, chiefly at the larger end, with pale greyish brown and blackish brown, measuring about 2·62 by 1·86.

1156. Arctic Skua.

STERCORARIUS CREPIDATUS.

Stercorarius crepidatus (Banks), in Cook's Voy. Hawksworth's ed. ii. p. 15 (1773); Dresser, viii. p. 471, pls. 611, 612, fig. 2; Saunders, Cat. B. Br. Mus. xxv. p. 327; id. Manual, p. 691; Blanf. F. Brit. Ind. Birds, iv. p. 329; *S. parasiticus* (Bodd, nec. Linn.), Tabl. Pl. Enl. p. 58, No. 991 (1783); (Gould), B. of Gt. Brit. v. pl. 80; (Naum.), x. p. 506, Taf. 272, 273; Tacz. F. O. Sib. O. p. 1056; Ridgway, p. 22; *S. richardsoni* (Swains.), Faun. Bor. Am. Birds, p. 433, pl. 73 (1831); (Hewitson), ii. p. 609, pl. cxliii. fig. 2; (Gould), B. of E. v. pl. 441; Seebohm, B. Jap. Emp. p. 288; (Lilford), vi. p. 75, pl. 34.

Labbe parasite, French; *Cagado*, Portug.; *Cágalo*, Span.; *Labbo*, Ital.; *Struntjäger*, *Schmarotzer-Raubmöwe*, German; *Kleine Jager*, Dutch; *Spidshalet-Kjove*, Dan.; *Leverjo*, Norweg.; *Vanliga Labb*, Swed.; *Kalapasko-räiskä*, Finn.; *Pomornik-tschujeadnui*, Russ.

♂ *ad.* (Greenland). Crown and sides of head to below the eye, back, wings, and tail dark brown, the head rather paler, the back almost blackish brown; shafts of outer quills white; chin, neck all round, and under parts white; sides and back of neck washed with yellow; breast and lower throat washed with ashy brown; crissum and under tail-coverts dark brown; middle tail-feathers elongated, tapered; bill lead-blue at base, otherwise blackish; legs blackish; iris brown. Culmen 1·5, wing 13·3, tail 8·9, the middle feathers 3·1 longer than the lateral ones, tarsus 1·8 inch. Varieties of this species are not uncommon, which are almost uniform sooty blackish.

Hab. The northern portions of the Old and New Worlds; Greenland, Iceland, the Færoes, N. Norway and Sweden,

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N. Russia, Britain; in winter south to the Mediterranean and the West Coast of Africa to the Cape; Northern Siberia, Kamchatka, the Commander and Kurile Islands; in winter south to the Makrán and Sind coasts, Australia and New Zealand; the Arctic regions of North America, south in winter to New York, Illinois, Colorado, and the coast of Brazil.

Like its allies it is a bold, rapacious bird, subsisting chiefly by plunder. It is swift and active on the wing, swims with ease, but does not either dive or plunge. Its cry is plaintive, not unlike the prolonged mew of a cat, and when alarmed it utters a sound between a hiss and a croak. At its breeding places it is exceedingly bold and daring. The nest is a mere hollow in the moss or grass, in which 2 eggs are laid late in May or early in June; these are greenish grey, greenish stone-colour, or olive-brown in ground-colour, more or less spotted and blotched with purplish grey and deep umber-brown, measuring about 2·17 by 1·57. It nests on moors, peat-bogs, or the grassy tops of sea cliffs, usually several pairs near together.

1157. Buffon's Skua.

STERCORARIUS PARASITICUS.

Stercorarius parasiticus (Linn.), Syst. Nat. i. p. 226 (1766); (Gould), B. of E. v. pl. 442; Dresser, viii. p. 481, pl. 612, fig. 1; Saunders, Cat. B. Br. Mus. xxv. p. 334; id. Manual, p. 693; (Lilford), vi. p. 77, pl. 35; *S. longicaudus*, Vieill. Nouv. Dict. xxii. p. 157 (1819); Gould, B. of Gt. Brit. v. pl. 81; Tacz. F. O. Sib. O. p. 1059; Ridgway, p. 23; *L. crepidata* (nec. Gmel.), Naum. x. p. 534, pl. 274; *S. buffoni*, Boie, Isis, 1822, p. 562; (Hewitson), ii. p. 508, pl. cxliii. fig. 1; Seebohm, B. Jap. Emp. p. 289.

Labbe à longue queue, French; *Labbo coda-lunga*, Ital.; *Kleiner Raubmöwe*, German; *Kleinste Jager*, Dutch; *Lille Kjove*, Dan.; *Fjeldjo*, Norweg.; *Fjällabb*, Swed.; *Skaiti*, *Haskil*, Lapp.; *Tunturi-räiskä*, Finn.

♂ *ad.* (Lapland). Differs from *S. crepidatus* in being smaller, the crown, nape, and sides of head glossy blackish brown, the yellow on the cheeks much brighter, the upper parts ashy grey, the middle tail-feathers much longer, and the two first primaries only with white shafts; bill plumbeous at the base, otherwise black; legs plumbeous, with large black patches on the feet; iris dark brown. Culmen 1·15, wing 11·5, tail 13·0, the middle feathers 8·1 longer than the lateral ones, tarsus 1·5 inch.

Hab. The Arctic regions of Europe, Asia, and America, migrating south in the autumn and winter as far as the Straits of Gibraltar; of rare occurrence in the Mediterranean; the

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Siberian coasts of the Arctic Ocean; Kamchatka and the Commander and Kurile Islands, migrating south in winter, and has once occurred as far south as between the Sandwich and Philippine Islands. In America it occurs in winter south to Florida and California.

In habits it does not differ from the preceding species, and like it is bold and fearless. During the breeding season at least, it feeds on lemmings, mice, insects, and to a large extent on crowberries. Its cry is described as being a loud dismal shriek, *i-i-i-ah, je-ah, je-oh, je-oh.* It breeds in colonies in the large marshes and moors in the high north, not far from water, the nest being a mere depression in the ground, sometimes lined with a few dry grass-bents, and the eggs, 2 in number, are usually laid in June, and are similar in appearance to those of the Arctic Skua, but as a rule greener in tone and subject to considerable variation. In size they measure about 2·10 by 1·43.

The sexes of the birds included in the present genus do not differ; the young birds are brownish with the upper tail-coverts and under parts barred and the back varied with rufous and brown; those of *S. pomatorhinus* and *S. parasiticus* are darker than those of *S. crepidatus*, but *S. parasiticus* is always distinguishable by having the shafts of the two first primaries only white. The young in down of all three species are brown, those of *S. pomatorhinus* pale sooty brown with a rufous tinge, those of *S. crepidatus* sooty brown above, paler below, and those of *S. parasiticus* are much paler, being greyish brown above and below.

PROCELLARIA, Linn., 1766.

1158. Storm-Petrel.

PROCELLARIA PELAGICA.

Procellaria pelagica, Linn. Syst. Nat. i. p. 212 (1766); Naum. x. p. 557, pl. 275, fig. 1; Hewitson, ii. p. 517, pl. cxlv. fig. 1; (Audub.), B. Am. pl. 340; (Gould), B. of E. v. pl. 448; (id.), B. of Gt. Brit. v. pl. 86; (Dresser), viii. p. 491, pl. 613, fig. 1; Salvin, Cat. B. Br. Mus. xxv. p. 343; Saunders, p. 727; Lilford, vi. p. 123, pl. 53; Ridgway, p. 70.

Thalassidrome tempête, French; *Alma de mestre*, Portug.; *Uccello delle tempeste*, Ital.; *Schwalben-Sturmvogel*, German; *Stormvogeltje*, Dutch; *Lille-Stormsvale*, Dan.; *Liden-Stormsvale, Sörrön-Pedder*, Norweg.; *Stormsvala*, Swed.

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♂ *ad.* (Orkneys). General colour sooty black, the under parts paler and browner; median wing-coverts with pale tips; base of upper tail-coverts and of tail, sides of crissum, and under tail-coverts white; tail almost square; bill and legs black; iris dark brown. Culmen 0·58, wing 4·6, tail 2·15, tarsus 0·9 inch. Sexes alike.

Hab. North Atlantic Ocean, breeding on the Færoes, Orkney, and Shetland Islands; of rare occurrence in Scandinavia as far north as the Lofoten Islands; the Mediterranean and the African coasts south to the Cape on the west, and occurs between the Zambesi and Zanzibar on the east side; on the American coasts south to the Banks of Newfoundland; is replaced by *P. tethys*, Bp., off the Galapagos, this species being larger, with the upper tail-coverts white and the tail emarginate.

Essentially an oceanic bird the Storm-Petrel only frequents land for the purpose of nidification. It is tolerably swift on the wing, and skims the waves, following their undulations. It feeds on any fatty substance on the surface of the water, small molluscs, &c. During the breeding season it frequents islands, usually remaining in the holes during the day and wandering out to sea in the night. Late in June a single egg is deposited in a hole, or amongst the stones, the nest being scantily lined with plant-stems. The egg is rather elongated-oval in shape, the surface of the shell rather chalky, white in colour, generally with a zone of pale reddish dots round one end, and measures about 1·12 by 0·85.

OCEANODROMA, Reich., 1852.

1159. Leach's Petrel.

OCEANODROMA LEUCORRHOA.

Oceanodroma leucorrhoa (Vieill.), Nouv. Dict. xxv. p. 422 (1817); (Dresser), viii. p. 497, pl. 613, fig. 2; Salvin, Cat. B. Br. Mus. xxv. p. 348; Tacz. F. O. Sib. O. p. 1067; Ridgway, p. 71; Saunders, p. 729; (Lilford), vi. p. 127, pl. 54; *Thal. leachi*, Temm. Man. d'Orn. ii. p. 812 (1820); (Naum.), x. p. 575, Taf. 275, fig. 2; (Hewitson), ii. p. 520, pl. cxlv. fig. 2; Gould, B. of E. v. pl. 447; id. B. of Gt. Brit. v. pl. 85.

Thalassidrome cul-blanc, French; *Procellaria a coda forcuta* Ital.; *Gabelschwänziger-Schwalbensturmvogel*, German; *Stor-Stormsvale*, Dan.; *Klöfthalet-Stormsvale*, Norweg.; *Klyckstjertad-Stormsvala*, Swed.; *Umi-tsubame*, Jap.

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♂ *ad.* (Bay of Fundy). General colour sooty blackish brown, the head, breast, and back tinged with grey; inner secondaries and wing-coverts brownish grey, paler at the tips; upper tail-coverts white, some with narrow dark edges; tail forked; lateral under tail-coverts white, the central ones sooty brown; bill and feet black; iris dark brown. Culmen 0·75, wing 6·0, tail 3·5, tarsus 1·0, bare portion of tibia 0·3 inch.

Hab. Seas of Northern Europe, Asia, and America, wandering south in winter to the coasts of continental Europe and the Mediterranean; of rare occurrence in Scandinavia; Eastern Siberia, the Commander Islands, and Japan; the Atlantic and Pacific coasts of N. America; south to Virginia and California.

In habits it resembles *P. pelagica*, and is, like that bird, essentially oceanic. It breeds on many of the Hebrides, and on the islands off the east coasts of North America, selecting in preference grassy places where it can burrow under the sods, but it also burrows under rocks. Early in June a single egg is laid, which is like that of *P. pelagica* but larger, measuring about 1·33 by 0·95. The nest is a small pad of dry grasses placed at the end of the nest-hole.

1160. Harcourt's Petrel.

OCEANODROMA CASTRO.

Oceanodroma castro (Harcourt), A Sketch of Madeira, p. 123 (1851); Ogilvie Grant, Ibis, 1898, p. 314; Saunders, p. 731; *O. cryptoleucura*, Ridgway, Proc. U.S. Nat. Mus. iv. p. 337 (1882); id. Manual, p. 71; Dresser, ix. p. 395, pl. 718; Scott Wilson, Aves Haiwaiiensis, p. 209 and pl.; (Lilford), vi. p. 130, pl. 55.

♂ *ad.* (Porto Santo). Differs from *O. leucorrhoa* in being rather browner in tone of colour, the tail less deeply forked, all the feathers but the middle ones white on the basal quarter; upper tail-coverts white tipped with black. Culmen 0·85, wing 6·0, tail 2·8, the middle feathers 0·2 shorter than the lateral ones, tarsus 0·85 inch.

Hab. Sandwich and Galapagos Islands, and the South Atlantic Ocean, breeding as far north as the islets between Cape Verde Islands and Madeira; has once strayed to England and twice to Denmark.

In habits it does not differ from its allies, and, like those, breeds in holes, depositing in June a single egg, which is white, sometimes with a wreath of red spots round the larger end, and in size measures about 1·26 by 0·98.

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1161. Sooty Petrel.

OCEANODROMA FULIGINOSA.

Oceanodroma fuliginosa (Gmel.), Syst. Nat. i. p. 562 (1788); Stejn. Pr. U.S. Nat. Mus. xvi. p. 620 (1893); Salvin, Cat. B. Br. Mus. xxv. p. 352.

Ad. Crown, occiput, hind neck, back, scapulars, and upper rump uniform dark sooty slate, darker and more sooty on posterior scapulars, the longest feathers of which are distinctly paler at ends, with a narrow terminal margin of brownish white; lesser and uppermost, median and greater wing-coverts sooty black; rest of wing-coverts and tertials light greyish brown (between "broccoli" and "hair-brown"); alula, primary coverts, and remiges uniform sooty black; lower rump light greyish brown; upper tail-coverts and tail sooty black; anterior portion of head all round silky deep sooty grey or greyish brown, deepening gradually into the darker colour of the occiput, &c.; under parts uniform sooty greyish brown (much like the colour of the greater wing-coverts), the under wing-coverts rather lighter and more tinged with brown; bill and feet black. Total length (skin) about 10·00 inches, wing 7·50, tail 4·45, forked for 1·60, culmen 0·70, depth of bill just before nasal tubes 0·25, tarsus 1·10, middle toe with claw 1·10.

Hab. Japanese seas.

I have not had an opportunity of examining a specimen of this Petrel, and have therefore reproduced Mr. Ridgway's description, furnished to Mr. Salvin (Cat. B. Br. Mus. xxv. p. 353). Nothing appears to be known respecting the habits and nidification of this species.

1162. Japanese Black Petrel.

OCEANODROMA TRISTRAMI.

Oceanodroma tristrami, Stejn. M.S. Salvin, Cat. B. Br. Mus. xxv. p. 354; *O. melania* (Seeb., nec. Bp.), B. Jap. Emp. p. 270 (1890).

♂ *ad.* (Japan). Anterior portion of head all round sooty greyish brown (decidedly darker than in *O. homochroa*), changing gradually to sooty blackish slate on hinder crown, occiput, and hind neck, and to deep greyish sooty brown on fore neck and chest; rest of under parts light greyish sooty brown, each feather indistinctly tipped with darker (colour of chest), producing a very faint transversally mottled appearance, the under tail coverts, however, uniform, though the colour gradually becomes darker towards ends of longer feathers; under wing-coverts uniform light greyish sooty brown, those along edge of wing much darker, with pale margins; back, scapulars, and upper rump sooty slate-colour, each feather

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with one or two very indistinct darker bars, and tipped with a more decided slaty hue; lesser wing-coverts and tertials darker greyish sooty brown, the longer of the latter narrowly margined with paler; middle and greater wing-coverts and innermost secondaries light greyish brown, the margins of the secondaries and approximate coverts sooty-blackish; lower rump light greyish brown (like large wing-coverts); upper tail-coverts and tail dark greyish brown (much paler than remiges), each feather showing a subterminal broad transverse spot of a darker shade of the same colour; bill and feet black. Total length (skin) about 9 inches, wing 6·20, tail 3·78, forked for 1·6, culmen 0·70, depth of bill through middle 0·20, tarsus 1·10, middle toe with claw 1·12.

Hab. Japan.

Not having been able to examine a specimen of this Petrel, I have, as before, been obliged to copy the description in the Brit. Mus. Catalogue. Nothing appears to be on record respecting the habits or nidification of this species.

1163. Swinhoe's Petrel.

OCEANODROMA MONORHIS.

Oceanodroma monorhis (Swinhoe), Ibis, 1867, p. 386; (David and Oust.), Ois. Chine, p. 515; Salvin, Cat. B. Br. Mus. xxv. p. 356, pl. ii.

Ad. (China). Differs from *O. tristrami* in being somewhat smaller; it lacks the lighter rump patch, and has the light-coloured wing area more restricted, the tail less deeply forked and the primaries much less short and pointed. Culmen 0·8, wing 6·0, tail 2·9, the central feathers 0·7 shorter than the lateral ones, tarsus 0·9, middle toe 0·9, inner toe 0·7 inch.

Hab. Coasts of China and Japan.

Respecting the habits and nidification of this species I find nothing on record, except that it is said to breed on the desert islands north-east of Formosa.

1164. Fork-tailed Petrel.

OCEANODROMA FURCATA.

Oceanodroma furcata (Gmel.), Syst. Nat. i. p. 561 (1788); (Gould), Zool. Voy. "Sulphur," p. 50, pl. 33; (Seebohm), B. Jap. Emp. p. 271; Tacz. F. O. Sib. O. p. 1068; Ridgway, p. 70; Salvin, Cat. B. Br. Mus. xxv. p. 357.

♂ *ad.* (Kurile Islands). General colour bluish grey, the scapulars, wings externally, and space below the eye black; the outer tail-feathers on each side with the outer web white nearly to the tip; wing-coverts

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edged with greyish white; chin, throat, and under tail-coverts nearly white; bill and feet black. Culmen 0·83, wing 6·25, tail 3·6, the middle feathers 0·74 shorter than the lateral ones, tarsus 1·03.

Hab. North Pacific Ocean, south to Oregon, and the Kurile Islands.

In habits this Petrel is said not to differ from its allies. It breeds on small islands off Unalaska, on Copper Island and the Kuriles, in holes 3 feet or more deep in the steep basaltic rocks, depositing in July a single glossless white egg, sometimes marked at the larger end with purplish black or lilac dots or spots, and measuring about 1·31 by 1·00.

OCEANITES, Keyserl. and Blas., 1840.

1165. WILSON'S PETREL.

OCEANITES OCEANICUS.

Oceanites oceanicus (Kuhl.), Beitr. p. 136, Tab. x. fig. 1 (1820); Dresser, viii. p. 505, pl. 614, fig. 1; Salvin, Cat. B. Br. Mus. xxv. p. 358; Blanf. F. Brit. Ind. Birds, iv. p. 354; Saunders, p. 733; Ridgway, p. 71; Lilford, vi. p. 131, pl. 56; *O. wilsoni* (Bp.), Journ. Acad. Philad. iii. p. 231, pl. 9, fig. 2 (1823); (Audubon), B. N. Am. pl. 270; Gould, B. of Austral. vii. pl. 65.

Casquilho, Portug.; *Pastorcito*, Span.

♂ *ad.* (off Fayal). Sooty black with a greyish tinge, especially on the head and neck; wing-coverts brownish, some of the middle ones marked with greyish white; sides of rump and of under tail-coverts, and lower flanks white; tail nearly even; bill and legs black, the basal half of the webs yellow; iris dark brown. Culmen 0·65, wing 5·75, tail 3·0, tarsus 1·3, bare part of tibia 0·65 inch.

Hab. Atlantic Ocean, north to the coasts of Labrador and of the British Isles, south to the Ice-barrier in the Antarctic Ocean; the Indian Ocean north to the Mekrán coast; the Australian seas and New Zealand.

In habits it resembles *P. pelagica*, and like it is essentially an ocean bird. It was found breeding on Kerguelen Island in January and February, by the Rev. A. E. Eaton, and since then plentifully on South Victoria Land, Antarctic regions. The single egg is laid in dry chinks and crevices under rocks, and is like that of *P. pelagica*, but speckled and dotted chiefly round one end with pink, and measures about 1·30 by 0·92.

The young in down of all the preceding species of Petrels are covered with sooty brownish or greyish down from which they moult into the adult dress.

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PELAGODROMA, Reichenb., 1852.

1166. Frigate Petrel.

PELAGODROMA MARINA.

Pelagodroma marina (Lath.), Ind. Orn. ii. p. 826 (1790); (Gould), B. of Austral. vii. pl. 61; Dresser, ix. p. 399, pl. 719; Salvin, Cat. B. Br. Mus. xxv. p. 362; Ridgway, p. 72; Saunders, p. 735; Lilford, vi. p. 134, pl. 57.

Ad. (Teneriffe). Upper parts slaty brown, darker on the crown and lower back, paler and greyer on the dorsal region, the feathers with slightly paler margins; lower rump and upper tail-coverts pale slate-grey, the latter with narrow white margins; wings and tail blackish brown; secondaries and wing-coverts margined and tipped with whitish; a patch below the eye beyond the ear-coverts dark slaty brown; forehead, superciliary stripe, and under parts white; bill and legs black, the webs yellow with a dark edge. Culmen 0·9, wing 6·0, tail 3·35, the middle feathers 0·42 shorter than the lateral ones, tarsus 1·7 inch. Sexes alike.

Hab. Seas of the Southern Hemisphere, north to the Canary Islands and the Salvages; has occurred on the coast of Massachusetts once, and twice off those of Great Britain.

In habits this bird does not appear to differ from Leach's and the Storm Petrel. It has been found breeding on the Salvage Isles, on the Chatham and Houtmann's Abrolhos Islands, and on Nightingale Island, one of the Tristan da Cunha group. It nests in holes in the ground, depositing in April in the Salvages, in December in the Australian seas, a single white egg, finely spotted and often zoned at one end with fine reddish or purplish dots, and measuring about 1·47 by 1·07.

PUFFINUS, Briss., 1760.

1167. Manx Shearwater.

PUFFINUS ANGLORUM.

Puffinus anglorum (Temm.), Man. d'Orn. ii. p. 807 (1820); (Hewitson), ii. p. 514, pl. cxliv. fig. 1; Gould, B. of E. v. pl. 443; id. B. of Gt. Brit. v. pl. 84; Dresser, viii. p. 517, pl. 615, fig. 1; Salvin, Cat. B. Br. Mus. xxv. p. 377; Saunders, p. 741; Lilford, vi. p. 140, pl. 60; *P. puffinus*, Linn. Syst. Nat. i. p. 213 (1766); Ridgway, p. 60; *P. arcticus*, Faber, Prodr. Isl. Orn. p. 156 (1822); Naum. x. p. 618, Taf. 277.

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Pétrel Manks, French; *Furabuxo, Chirêta*, Portug.; *Animas, Diablos*, Span.; *Berta-minore*, Ital.; *Nordischer Tauchersturmvogel*, German; *Noordsche-Pijlstormvogel*, Dutch; *Skropa*, Icel.; *Almindelig Skraape*, Dan.; *Lire*, Norweg.; *Mindre Lira*, Swed.

♂ *ad.* (Orkney). Crown, sides of head, and upper parts generally black, the sides of head slightly marked with white; the hind neck tinged with grey; entire under parts, flanks, and under wing-coverts white; upper mandible blackish brown; lower mandible bluish horn; iris dark brown; legs bluish flesh-colour. Culmen 1·6, wing 9·3, tail 3·2, tarsus 1·9 inch.

Hab. North Atlantic Ocean; Iceland, the Færoes; the British Islands; of occasional occurrence on the coasts of Norway, Sweden, Denmark, Holland, and Germany, more common in Western Europe, Morocco, Canaries, and Madeira; the Atlantic coast of America, south to Brazil.

Essentially an ocean bird it only visits land during the breeding season, and may be seen far out at sea gliding with a Swift-like flight, close to the surface of the water. During the nesting season it is partly crepuscular, remaining in its hole during the day, and coming out in the evening. It breeds in burrows in the soil on cliffs, placing its single egg either on the bare ground or on a scanty pad of dry herbage at the end of its hole. The eggs, which are laid in May or early in June, are white, smooth in texture, and measure about 2·37 by 1·65.

1168. Subsp. Puffinus yelkouanus.

Puffinus yelkouanus (Acerbi), Bibl. Ital. cxl. p. 294 (1827); Salvin, Cat. B. Br. Mus. xxv. p. 379; *P. baroli*, Bonelli, fide Bp. Compt. Rend. xlii. p. 769 (1856).

♂ *ad.* (Bosphorus). Closely resembles *P. anglorum*, but has the upper parts rather paler and browner; the under tail-coverts as a rule dusky brown, and the axillaries brown towards the tips. Culmen 1·9, wing 9·0, tail 2·75, the middle feathers about 0·15 longer than the lateral ones, tarsus 1·8, middle and outer toes 1·95, inner toe 1·55.

Hab. The Mediterranean; has occurred off the coasts of Northumberland, Yorkshire, Devonshire, and Cornwall.

This is a very doubtful southern form or race of our Manx Shearwater, which does not differ in habits or nidification from that species. It breeds in the Mediterranean, chiefly on the islands in the eastern portion.

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1169. Great Shearwater.

PUFFINUS GRAVIS.

Puffinus gravis (O'Reilly), Voy. to Greenland, &c., p. 140, pl. 12, fig. 1 (1818); Salvin, Cat. B. Br. Mus. xxv. p. 373; Saunders, p. 737; *P. major* (Faber), Prodr. Isl. Orn. p. 56 (1822); Gould, B. of Gt. Brit. v. pl. 83; Dresser, viii. p. 527, pl. 616, fig. 2; Ridgway, p. 59; Lilford, vi. p. 136, pl. 58; *P. cinereus*, Nutt. Man. Water Birds, p. 334 (1834).

Stora skrofa, Icel.

♂ *ad.* (S. England). Crown, sides of head, nape, and upper parts deep brown, the feathers of the upper parts with paler margins; wings and tail darker; lower hind neck white tinged with brown; lower part of upper tail-coverts white marked with brown; under parts and under wing-coverts white; under tail-coverts greyish brown tipped with white; bill blackish horn; outside of tarsus and exterior toe brownish, rest of feet and webs yellowish flesh; iris dark brown. Culmen 2·35, wing 12·6, tail 4·7, tarsus 2·38, middle toe 2·65 inch. Sexes alike.

Hab. The Atlantic Ocean from Greenland, Iceland, and the Færoe Isles south to the Cape of Good Hope and Falkland Islands, appears occasionally in vast flocks off the Hebrides.

In general habits it does not differ from *P. anglorum*. Nothing definite is known of its nidification, and authentic eggs are still wanting.

1170. Sooty Shearwater.

PUFFINUS GRISEUS.

Puffinus griseus (Gmel.), Syst. Nat. i. p. 564 (1788); Dresser, viii. p. 523, pl. 616, fig. 1; Seebohm, B. Jap. Emp. p. 266; Salvin, Cat. B. Br. Mus. xxv. p. 386; Saunders, p. 739; Lilford, vi. p. 138, pl. 59; Ridgway, p. 61; *P. fuliginosus*, Strickl. P.Z.S. 1832, p. 129; *P. stricklandi*, Ridgw. Manual, p. 61 (1896).

♂ *ad.* (S. England). Upper parts sooty blackish brown with a chocolate tinge, the head, lower back, wings, and tail darker, the dorsal feathers with faintly paler edges; under parts greyer; the chin and upper throat dark ashy grey; under wing-coverts greyish white with dark shafts and marbled with brown; bill brownish black, paler on the edge of the lower mandible; outer portion of tarsus and outer toe blackish brown; rest of legs and feet dull brownish ochreous; iris dark brown. Gape 2·25, wing 11·85, tail 3·7, tarsus 2·22, middle toe 2·8 inch. Sexes alike.

Hab. Generally distributed throughout the seas of both hemispheres from the Færoes and Banks of Newfoundland to the

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Cape of Good Hope and Straits of Magellan, and in the Pacific from California and the Kurile Islands to Australia, New Zealand, and the Auckland Islands. Breeds in the southern hemisphere.

In habits this species does not differ from its allies. It nests in holes in the ground, depositing a single egg, white stained with reddish brown, which measures about 3·25 by 2·0.

1171. Mediterranean Shearwater.

PUFFINUS KUHLI.

Puffinus kuhli (Boie), Isis, 1835, p. 257; Dresser, viii. p. 513, pl. 615, fig. 2; Salvin, Cat. B. Br. Mus. xxv. p. 375; Ridgway, p. 59; *P. cinereus*, Gould, B. of E. v. pl. 445; *P. borealis*, Cory, Bull. Nutt. Orn. Club. vi. p. 84 (1881); Ridgway, p. 59; *P. major* (nec. Temm.), Hewitson, ii. p. 516, pl. cxliv. fig. 3.

Puffin cendré, French; *Pardella de bico branco*, Portug.; *Bertamaggiore*, Ital.; *Ciefa*, Maltese.

Ad. (Algerian coast). Upper parts cinereous brown, the sides of the head and neck paler and greyer; back and wing-coverts with paler margins; wings and tail blackish brown; under parts pure white; under tail-coverts mottled at the edge; bill livid yellowish, brownish horn towards the point; legs and feet livid yellowish; iris dark brown. Culmen 2·8, wing 13·6, tail 5·6, tarsus 2·1 inch. Sexes alike.

Hab. The Mediterranean, and the Atlantic Ocean from the Massachusetts coast to Madeira and the Canaries; Kerguelen Island.

In habits it does not differ from *P. anglorum*. It nests on the islands of the Mediterranean and in the Canaries, depositing, in holes in the ground or crannies in the cliffs, a single white egg, measuring about 2·61 by 1·73.

1172. Japanese Shearwater.

PUFFINUS LEUCOMELAS.

Puffinus leucomelas, Temm. Pl. Col. 587 (1836); id. and Schleg. Faun. Jap. Aves, pl. 85; Seebohm, B. Jap. Emp. p. 264; Salvin, Cat. B. Br. Mus. xxv. p. 370; Ridgway, p. 62.

Ad. (Japan). Crown, nape, sides of head and of neck white closely striped and marked with blackish brown; hind neck, upper parts, wings and tail deep brown, the dorsal feathers with narrow greyish white or greyish brown margins; some of the upper tail-coverts tipped with white; under parts and axillaries white; under wing-coverts near the edge of the wing with dark discs; bill horn-colour; legs and feet flesh-coloured, the outer toe darker. Culmen 2·35, from the base of the feathers 2·0, wing

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12·6, tail 5·4, lateral feathers 1·6 shorter than the middle ones, tarsus 1·85 middle toe with claw 2·5 inch.

Hab. The seas of Japan and Corea, southwards to the Philippines, N. Borneo, Moluccas, and the northern coast of Australia.

I find nothing on record respecting the habits or nidification of this species.

1173. Flesh-coloured Shearwater.

PUFFINUS CARNEIPES.

Puffinus carneipes, Gould, P.Z.S. 1844, p. 57 ; id. B. of Austral. vii. pl. 57 ; Seebohm, B. Jap. Emp. p. 265 ; Salvin, Cat. B. Br. Mus. xxv. p. 385 ; Ridgway, p. 62.

♂ *ad.* (Japan). Entire plumage dark sooty chocolate-brown, the throat and under parts rather paler and greyer ; under wing-coverts and axillaries sooty brown ; bill fleshy white, the culmen and tips of mandibles brown ; legs, feet, and interdigital membranes yellowish flesh-colour. Culmen 2·3, wing 12·8, tail 5·0, tarsus 2·2, middle toe with claw 2·65 inch.

Hab. The Australian and New Zealand seas, north to the Japanese seas.

Respecting the habits of this bird I find practically nothing on record, but it doubtless does not differ from its allies. It breeds on the small islands off Cape Leeuwin on the coast of Australia, nesting in holes in the ground, and deposits a single white egg, which measures about 2·93 by 1·98.

1174. Slender-billed Shearwater.

PUFFINUS TENUIROSTRIS.

Puffinus tenuirostris (Temm.), Pl. Col. 587 (1835) ; (id.) and Schleg. Faun. Jap. Aves, p. 131, pl. 86 (1842) ; Seebohm, B. Jap. Emp. p. 267 (1890) ; Tacz. F. O. Sib. O. p. 1066 ; Salvin, Cat. B. Br. Mus. xxv. p. 338 ; Ridgway, p. 62 ; *P. brevicaudus*, Brandt, Icon. Russ. Av. Tab. vi. fig. 171 (1836) ; Gould, B. of Austral. vii. pl. 56.

♂ *ad.* (Japan). Differs from *P. carneipes* in having the upper parts paler with paler margins to the feathers ; under parts paler and more ashy in tinge ; the throat with a bluish tinge ; the breast and abdomen feathers with slightly paler margins ; under wing-coverts paler grey ; bill fleshy horn-colour ; tarsi and toes yellowish, outwardly darker. Culmen 2·3, from base of feathers 1·9, wing 12·5, tail 5·3, tarsus 2·5 inch.

Hab. Pacific Ocean north to Kamchatka and Alaska ; the Kurile Islands, Japan, and the coasts of Corea ; south to the Australian and New Zealand seas.

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Is said to spend the day out at sea and the night in its nest hole. Its flight is direct and very swift, and its food consists of small shrimps, crustaceans, and molluscs. Immense numbers breed on the islands in Bass's Straits, nesting in holes burrowed in the ground, depositing late in November each a single white egg, which measures about 2·75 by 1·88.

1175. Cahow.

PUFFINUS OBSCURUS.

Puffinus obscurus (Gmel.), Syst. Nat. i. p. 559 (1788); Gould, B. of E. v. pl. 444; Audub. B. N. Am. pl. 299; Dresser, ix. p. 403, pl. 720; Salvin, Cat. B. Br. Mus. xxv. p. 382; Lilford, vi. p. 141, pl. 61; *P. auduboni*, Finsch, P.Z.S. 1872, p. 111; Ridgway, p. 60; *P. tenebrosus*, Natt. fide Pelz. Ibis, 1873, p. 47; Ridgway, p. 60.

Cahow, in Bermuda.

Ad. (Bermudas). Upper parts slaty black; under parts white extending to the eye; feathers on the sides of the head and neck mottled; under wing-coverts white; axillaries white slightly marked with slaty black at the tip; bill blackish plumbeous paler on the lower mandible; outside of tarsus and the outer toe blackish plumbeous, the rest fleshy yellow; iris blackish brown. Culmen 1·45, wing 7·0, tail 3·2, tarsus 1·5 inch. Sexes alike.

Hab. The tropical and subtropical seas of the whole world; the eastern coasts of North America from New Jersey to Florida and formerly in abundance in Bermuda; of accidental occurrence on the coasts of the British Islands.

In habits this Shearwater resembles *P. anglorum*, and like that species nests in holes in the ground or in rocks, or under projecting rocks, depositing in March a single white egg like that of *P. anglorum*, but smaller, measuring about 2·05 by 1·40.

1176. Eastern Dusky Shearwater.

PUFFINUS ASSIMILIS.

Puffinus assimilis, Gould, P.Z.S. 1837, p. 156; id. B. of Austral. vii. pl. 59; Dresser, ix. p. 407; Salvin, Cat. B. Br. Mus. xxv. p. 384; Ridgway, p. 61; Saunders, p. 743; *P. nugax*, Solander, M.S. Bp. Consp. ii. p. 205 (1856); *P. bailloni*, Bp. Compt. Rend. xlii. p. 769 (1856).

Ad. (Porto Santo). Differs from *P. obscurus* in having the upper parts rather bluer in tinge, the white extending rather more round the eye and on the lores; under wing-coverts, axillaries, and under tail-coverts pure white; outer portion of inner web of primaries white except at the tip;

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bill dark horn-colour; tarsi and toes greenish yellow; webs yellowish orange; iris dark brown. Culmen 1·2, wing 7·1, tail 2·85, tarsus 1·42 inch.

Hab. The Australian and New Zealand seas; the Atlantic north to the Canaries and Madeira; has occurred on the coasts of Great Britain at least twice.

In habits it resembles *P. obscurus*. Mr. Grant says that it is a very silent bird, but Mr. Boyd Alexander states that when on the wing it continually utters a weird cry, *karki-karrou, karki-karrou, karki-karrou*. It breeds in holes, under boulders, and in clefts of rocks, depositing a single white egg, which measures about 1·70 by 1·32.

I have carefully compared specimens from the North Atlantic with those from Australia, and fail to find any difference, therein agreeing with Mr. Salvin.

ŒSTRELATA, Bp., 1855.

1177. Capped Petrel.

ŒSTRELATA HÆSITATA.

Œstrelata hæsitata (Kuhl.), Beitr. p. 142 (1820); Dresser, viii. p. 545, pl. 618; Salvin, Cat. B. Br. Mus. xxv. p. 402; Saunders, p. 745; Ridgway, p. 66; Lilford, vi. p. 148, pl. 64.

Diablotin of French Creoles.

Ad. (Hayti). Crown and nape blackish brown, the feathers white at the base; in front of and below the eye a few greyish black feathers extending to the ear-coverts; upper parts sooty brown; back of neck, upper tail-coverts, anterior lores, and the whole of the under parts white; tail white on the basal two-thirds, black on the terminal third; bill black; legs and feet yellow, the terminal portion of the toes and webs black. Culmen 1·7, wing 11·4, tail 6·1, tarsus 1·52 inch.

Hab. The Lesser Antilles; Dominica and Guadaloupe; has occurred once in France and once in Great Britain; once in Hungary.

In habits it is said to be nocturnal, and lays up in holes during the day, roaming about in search of food at night. It breeds in holes, but, so far as I can ascertain, no collection is in possession of an egg of this species.

1178. Soft-plumaged Petrel.

ŒSTRELATA MOLLIS.

Œstrelata mollis (Gould), Ann. and Mag. N. H. xiii. p. 363 (1844); (id.), B. of Austral. vii. pl. 50; Ridgway, p. 63; Dresser, ix. p. 411, pl. 721; Salvin, Cat. B. Br. Mus. xxv. p. 406.

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♂ *ad.* (Funchal). Upper parts slate-grey, the head rather darker; feathers on the forehead margined with white; a blackish grey patch in front of and below the eye; wings blackish brown; tail grey, the lateral feathers freckled with white; lores, throat, and under parts white, the sides of the breast grey, the flanks freckled with grey; bill blackish; tarsus and basal portion of feet yellowish flesh, the rest black; iris dark brown. Culmen 1·3, wing 10·4, middle tail-feathers 4·65, the lateral ones 3·25, tarsus 1·4 inch.

Hab. The Southern Seas, in the Atlantic north to Madeira.

Respecting the habits of this bird I find but little on record. Its flight is described as peculiarly rapid and graceful, and it is generally seen in small companies. It nests in New Caledonia about the summit of Mount Mou in burrows, depositing a single white egg, which measures about 2·1 by 1·6.

1179. Collared Petrel.

ŒSTRELATA BREVIPES.

Œstrelata brevipes (Peale), U.S. Expl. Exp. viii. p. 294, pl. 80 (1848); Stejn. Proc. U.S. Nat. Mus. xvi. p. 617; Salvin, Cat. B. Br. Mus. xxv. p. 408; Ridgway, p. 65; Saunders, p. 747; Lilford, vi. p. 146, pl. 63; *P. torquata*, Macgillivray, Zool. xviii. p. 7133; *Œst. leucoptera*, Salvin, Ibis, 1876, p. 393.

Ad. (New Hebrides). Forehead, cheeks, throat, and under parts white; upper parts slaty greyish black, the crown paler, the dorsal region, larger wing-coverts, and upper tail-coverts grey; tail greyish black, the lateral feathers pale grey; sides of breast slate-grey; under wing-coverts and axillaries white; bill black; tarsus and proximal half of the two inner toes yellowish, the rest black. Culmen 1·3, wing 8·55, tail 3·92, the outer feathers 1·15 shorter than the middle ones, tarsus 1·0 inch.

Hab. Western Pacific Ocean, New Hebrides, Fiji Islands; south to about 68° S.; has been once obtained near Aberystwith on the Welsh Coast.

According to John Macgillivray, this Petrel breeds in burrows on the wooded mountain-tops of the interior of Aniteum, New Hebrides, but its eggs were not obtained.

1180. Japanese Petrel.

ŒSTRELATA LONGIROSTRIS.

Œstrelata longirostris, Stejn. Pr. U.S. Nat. Mus. xvi. p. 618 (1893); Salvin, Cat. B. Br. Mus. xxv. p. 418.

Ad. (Japan). Differs from *Œst. brevipes* in having the greater wing-coverts lighter slate-grey, distinctly though narrowly margined with

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white; the feathers on the back with paler (white) and more distinct terminal margins, the dusky border to under side of wings narrower and interrupted along the outer margin, the inner webs of primaries with a conspicuous lengthened wedge of pure white. Culmen 0·95, depth of bill through middle 0·25, wing (primaries moulting), tail 3·80, its gradation 0·75, tarsus 1·25, middle toe with claw 1·40 inch.

Hab. Japanese coasts.

I have not been able to examine a specimen of this bird, and have therefore copied Mr. Ridgway's description. Only two specimens, in the Science College Museum, Tokyo, Japan, are known.

It is possible that *Œstrelata fisheri*, Ridgway, which has occurred near Alaska, may possibly occur also on the Asiatic side.

BULWERIA, Bp., 1842.

1181. Bulwer's Petrel.

BULWERIA COLUMBINA.

Bulweria columbina (Webb and Berth.), Orn. Canar. p. 44, pl. 4, fig. 2 (1841); Dresser, viii. p. 551, pl. 614, fig. 2; (Lilford), vi. p. 144, pl. 62; *B. bulweri* (Jard. and Selby), Ill. Orn. ii. pl. 65 (1825–43); (Hewitson), ii. p. 522, pl. cxlv. fig. 3; (Gould), B. of E. v. pl. 449; Salvin, Cat. B. Br. Mus. xxv. p. 420; Ridgway, p. 69; Saunders, p. 749.

♂ *ad.* (Dezertás). Entire plumage sooty brownish black, the upper parts darker, the under parts paler and browner; wings blackish brown, the larger coverts dull light brown at the tips; tail black, cuneate; bill black; legs brown; iris deep brown. Culmen 1·0, wing 7·7, tail 4·5, the lateral feathers about 1·5 shorter than the middle ones, tarsus 1·1 inch.

Hab. The temperate North Atlantic Ocean, chiefly near the Canaries and Madeira; temperate North Pacific Ocean; has once strayed to the British Isles, and is said to be of accidental occurrence at the Bermudas, and near the coast of Greenland.

In habits it resembles *O. leucorrhoa* and *P. pelagica*, and is said to be to a large extent nocturnal. It breeds in holes or under rocks, depositing in June a single white egg, which measures about 1·74 by 1·24.

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FULMARUS, Steph., 1826.

1182. FULMAR.

FULMARUS GLACIALIS.

Fulmarus glacialis (Linn.), Syst. Nat. i. p. 213 (1766); (Naum.), x. p. 589, Taf. 276; (Hewitson), ii. p. 512, pl. cxliv. fig. 2; (Gould), B. of E. v. pl. 446; (id.), B. of Gt. Brit. v. pl. 52; Dresser, viii. p. 535, pl. 617; Salvin, Cat. B. Br. Mus. xxv. p. 425; Ridgway, p. 57; Lilford, iv. p. 150, pl. 65; *F. minor* (Kjærb.), J. f. O. 1854, p. lix.; Ridgway, p. 57.

Pétrel Fulmar, French; *Eis-Sturmvogel*, German; *Noordsche-Stormvogel*, Dutch; *Filúngr*, *Fill*, Icel.; *Is-Stormfugl*, Dan.; *Stormfugl*, *Havhest*, Norweg.; *Stormfågel*, Swed.

♂ *ad.* (St. Kilda). Head, neck, and under parts white, the throat slightly tinged with yellow; a dark spot in front of the eye; upper parts blue-grey, darker on the wings and fading to greyish white on the tail; culmen to nares sea-green; nasal tube blackish olivaceous, rest of the bill greenish yellow (the whole bill sometimes dark); legs delicate French-grey; iris dark hazel-brown. Culmen 1·8, wing 13·0, tail 5·2, tarsus 2·05 inch. This species has a dark phase of plumage in which the general colour is dull ashy grey, the under parts paler, as well as a much lighter form in which the mantle is nearly as light as the belly.

Hab. North Atlantic Ocean.

Essentially an oceanic bird the Fulmar is rarely seen near land except during the breeding season, or when driven in by stress of weather. It frequently attends fishermen when the lines are being hauled in, to share in the spoil, and is seldom molested by them. It breeds on high cliffs skirting the ocean, the nest being a hollow in the ground scantily lined with grass, and in May a single egg is deposited, which is white, rather rough in texture of shell, with a strong musky smell, and measures about 2·89 by 2·0.

1183. SUBSP. FULMARUS GLUPISCHA.

Fulmarus glupischa, Stejn., Auk, i. p. 234 (1884); Tacz. F. O. Sib. O. p. 1064; Salvin, Cat. B. Br. Mus. xxv. p. 427; Ridgway, p. 57; *F. pacificus* (nec. Gmel.), (Aud.) Orn. Biogr. v. p. 331 (1839); Blakist. and Pryor, Trans. As. Soc. Jap. x. p. 106.

Ad. (Kuriles). In the light phase of plumage differs only from *F. glacialis* in having the nasal tube, and the whole bill yellow; in the dark phase much darker, being uniform dark sooty plumbeous.

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Hab. North Pacific Ocean; Kamchatka, the Commander, Aleutian, and Kurile Islands; on the American side south to Western Mexico.

In habits and nidification this bird does not differ from *F. glacialis*, and its eggs are undistinguishable from those of that bird.

DIOMEDEA, Linn., 1766.

1184. Short-tailed Albatross.

DIOMEDEA ALBATRUS.

Diomedea albatrus, Pall. Spic. Zool. v. p. 28 (1780); David and Oust. Ois. Chine, p. 516; Seebohm, B. Jap. Emp. p. 261; Tacz. F. O. Sib. O. p. 1068; Salvin, Cat. B. Br. Mus. xxv. p. 444; Ridgway, p. 51; *D. brachyura*, Temm. Pl. Col. livr. 79 (1829); id. and Schleg. Faun. Jap. Aves, p. 132, pl. 87; Gould, B. of Austral. vii. pl. 39; *D. derogata*, Swinhoe, P.Z.S. 1873, p. 786.

Ahodori, Jap.

♂ *ad.* (Japan). White, the head and neck tinged with buffy yellow; wings and tail slaty brown; quills with shafts yellowish white; bill yellowish horn; legs and feet bluish white. Culmen 5·55, wing 22·0, tail 6·25, tarsus 3·9 inch. Sexes alike. Young bird sooty brownish.

Hab. North Pacific Ocean, on the Asiatic side from the Arctic Ocean down to Japan and China, and occurs, it is said, as far south as Australia; on the American side from California to Alaska.

Like its allies this is strictly an oceanic bird, coming to land only during the nesting season. It nests on the Bonin Islands, Japan, in November, and eggs from there in the British Museum are dull white spotted and blotched at the larger end with red, and in length vary from 4·4 to 4·9, and in breadth from 2·75 to 3·05.

1185. Black-footed Albatross.

DIOMEDEA NIGRIPES.

Diomedea nigripes, Aud. Orn. Biogr. v. p. 327 (1839); id. B. of Am. 8vo ed. vii. p. 198; David and Oust. Ois. Chine, p. 517; Seebohm, B. Jap. Emp. p. 263; Salvin, Cat. B. Br. Mus. xxv. p. 445; Ridgway, p. 51.

Ad. (Japan). General colour sooty brown, the fore crown, neck, and under parts greyer; feathers at the base of the bill and a triangular spot

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behind and below the eye dull white; tail white at the base; bill dusky purplish brown, legs and feet black. Gape 4·6, wing 18·0, tail 5·5, tarsus 4·5 inch. The young bird has the crown and sides of the head whiter, the rump and upper tail-coverts white, or sooty brown and white intermixed.

Hab. North Pacific Ocean; the coasts of Japan and China; on the American side from the coast of California, where it is abundant, to Alaska.

The present species has been much confounded with *D. albatrus*, owing to the similarity of the young of that to the adult of the present species. I do not find any details respecting its nidification, but a single egg in the British Museum, obtained on Sulphur Island, Bonin group, Japan, on the 8th of June, is dull brownish white, without markings, and measures 4·2 by 2·5.

1186. Black-browed Albatross.

DIOMEDEA MELANOPHRYS.

Diomedea melanophrys, Boie, in Temm. Pl. Col. 456 (1828); Gould, B. of Austral. vii. pl. 43; Salvin, Cat. B. Br. Mus. xxv. p. 447; Saunders, p. 753; Ridgway, p. 52.

Ad. Head, neck, entire under parts, rump, and upper tail-coverts white; a short slaty greyish black band before and behind the eye; back and scapulars slaty greyish brown, the wings dusky brown; tail slate-grey, the shafts white; bill yellowish horn, darker at the tip; legs and feet yellow. Gape 5·2, wing 20·0, tail 8·0, tarsus 3·05 inch.

Hab. Southern Ocean, straying occasionally to the North Atlantic; one was obtained in 80° 11′ N. lat. and 4° E. long. in June, 1878; one near Linton in Cambridgeshire in July, 1897; and in 1893 one was shot near Myggenaes in the Færoes, which for the past thirty to forty years had consorted with the Gannets on that island.

Like its allies it is essentially an oceanic bird, and only frequents the land during the breeding season. It breeds on many islands in the Southern Ocean, in colonies, the nest being a pile of earth and moss about four inches high, and a single egg is usually deposited, though occasionally 2 are found in the same nest. These are dull white, with a well-marked cap of rufous specks and blotches at the larger end, and measure about 4·1 by 2·57.

Diomedea exulans, Linn., is said to have been obtained on the coast of Norway, near Dieppe, Antwerp, and Chaumont; *Thalassogeron culminatus* (Gould) is said to have been procured

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in Norway; *Tachypetes aquilus* is stated to have been obtained on the Weser in 1792; *Phæton æthereus*, Linn., is said to have been obtained at Cradley, Lancashire, and to have been seen off Heligoland; a specimen of *Prion ariel*, Gould, in the Gould collection, is stated to have been obtained off Madeira; and *Daption capensis* (Linn.) has been procured off the Irish, English, and French coasts; but as all these records are more or less doubtful, and these species are strictly non-Holarctic, I have not deemed it necessary to include them.

ALCA, Linn., 1766.

1187. Razorbill.

ALCA TORDA.

Alca torda, Linn. Syst. Nat. i. p. 210 (1766); Naum. xii. p. 606, Taf. 336; Audubon, B. Am. vii. p. 247, pl. 466; Hewitson, ii. p. 468, pl cxxviii; Gould, B. of E. v. pl. 401; id. B. of Gt. Brit. v. pl. 47; Dresser, viii. p. 557, pl. 619; Ogilvie Grant, Cat. B. Br. Mus. xxvi. p. 565; Ridgway, p. 18; Saunders, p. 695; Lilford, vi. p. 79, pl. 36.

Pingouin macroptère, French; *Gazza-marina*, Ital.; *Tordalk*, German; *Alka*, *Klumba*, Icel.; *Alk*, Dutch; *Almindelig Alk*, Dan.; *Brednæbbet Alke*, Norweg.; *Tordmule*, Swed.; *Ruokki*, Finn.

♂ *ad.* (Greenland). Upper parts, wings, and tail glossy black; sides of head and throat brownish black; a white line from the ridge of the upper mandible on each side to the eye; short secondaries tipped with white; under parts white; bill black with a curved vertical white line on each side; legs and iris black. Gape 2·0, wing 8·1, tail 3·4, tarsus 1·35 inch. Sexes alike. In winter the throat and sides of the head and neck are white, and the upper parts duller and browner. The young bird resembles the adult in winter, but has the bill shorter, weaker, and less elevated.

Hab. The North Atlantic, not further than about 73° N., south to the Mediterranean; the Azores and the Canaries; on the American coasts to southern New England.

The Razorbill is essentially a sea-bird, and on the water swims and dives with the greatest ease, and its flight is direct and rapid. Its food consists of small fish, which it obtains by diving. It breeds on the ledges of cliffs close to the sea, almost always in societies, frequently in countless numbers, generally in company with one or other of the species of Guillemot, depositing in May, on the bare ground, a single egg, which is pyriform in shape, rather elongated, in ground-colour buffy

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stone or buffy white, sometimes with a faint greenish tinge, marked with purplish grey shell-markings and brownish black or black surface spots and blotches, which are more numerous at the larger end, and in size measures about 3·28 by 2·0. When held against the light the inner membrane of the empty egg is green.

1188. Great Auk.

ALCA IMPENNIS.

Alca impennis, Linn. Syst. Nat. i. p. 210 (1766); Naum. xii. p. 630, Taf. 337; Hewitson, ii. p. 469, pl. cxxix.; Gould, B. of E. v. pl. 400; id. B. of Gt. Brit. v. pl. 46; Dresser, viii. p. 563, pl. 620; (Ogilvie Grant), Cat. B. Br. Mus. xxvi. p. 563; (Ridgway), p. 19; Saunders, p. 697; Lilford, vi. p. 81, pl. 37.

Geir-fugl, Icel.

Being undoubtedly an extinct species, the Great Auk is scarcely entitled to a place in the present work. It used formerly to inhabit the North Atlantic Ocean, south of the Arctic Circle.

1189. The Guillemot.

ALCA TROILE.

Alca troile (Linn.), Syst. Nat. i. p. 220 (1766); (Hewitson), ii. p. 455, pl. cxxiv.; (Gould), B. of E. v. pl. 396; id. B. of Gt. Brit. v. pl. 48; Dresser, viii. p. 567, pl. 621; Seebohm, B. Jap. Emp. p. 273; (Ogilvie Grant), Cat. B. Br. Mus. xxvi. p. 573; (Saunders), p. 699; (Lilford), vi. p. 83, pl. 38; *Uria lomvia*, Keys. and Blas. Wirbelth. p. 238 (1840, nec. Pall.); Naum. xii. p. 508, Taf. 331; *U. ringvia*, Brünn. Orn. Bor. p. 28 (1764); *U. californica* (Bryant), P. Bost. Soc. viii. p. 142, figs. 3, 5 (1861); Ridgway, p. 18; Tacz. F. O. Sib. O. p. 1219.

Guillemot troile, French; *Lumme*, German; *Zeekoet*, Dutch; *Langnefia*, *Langvia*, Icel.; *Langnæbet Teiste*, Dan.; *Spidsalke*, Norweg.; *Sillgrissla*, Swed.

Ad. (Yorkshire). Head, neck, upper parts, wings, and tail dark brown, the back tinged with slate; secondaries tipped with white; under parts below the neck white, the flanks streaked with dusky brown; bill black; legs and feet blackish olivaceous, the webs less black; iris brown. Gape 2·9, wing 7·7, tail 2·05, tarsus 1·05 inch. Sexes alike. In winter the upper parts are darker, the throat and sides of the head white, in places slightly mottled with brown, with a dark streak behind the eye through the white on the side of the head. The ringed variety, *U. ringvia*, differs only in having a narrow ring round the eye, and a streak passing from the eye along the side of the head, white.

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Hab. The North Atlantic Ocean, North Sea, and southern Baltic; in winter south on the American side to New England, and on the European side down to about 30°; the North Pacific Ocean south to Japan and Southern California.

Like the Razorbill it is a marine species, keeping in vast companies, obtaining its food chiefly by diving, and like it breeds socially on the ledges of sea cliffs, generally those overhanging the sea, the egg, for only 1 is deposited, being placed on the ground, no nest being made. The eggs vary greatly, the ground-colour from white to deep blue or greenish blue, and the markings, which are sometimes mere spots, and at others contorted and fantastic lines, from reddish brown to dark brown and blackish, and in size they vary from 3·5 by 1·88 to 3·5 by 2·5.

1190. Brünnich's Guillemot.

ALCA LOMVIA.

Alca lomvia (Pall.), Zoogr. Ross. As. ii. p. 345 (1811); Ridgway, p. 18; (Ogilvie Grant), Cat. B. Br. Mus. xxvi. p. 577; *A. bruennichi* (Sabine), Trans. Linn. Soc. xii. p. 538 (1817); (Hewitson), ii. p. 460, pl. cxxv.; (Gould), B. of E. v. pl. 398; Dresser, viii. p. 575, pl. 622; (Saunders), p. 701; (Lilford), vi. p. 87, pls. 39, 40; *A. arra* (Pall.), Zoogr. Ross. As. ii. p. 347 (1811); (Naum.) xii. p. 535, Taf. 333; (Tacz.) F. O. Sib. O. p. 1217.

Dickschnabel-Lumme, German; *Groote Zeekoet*, Dutch; *Stutnefia*, Icel.; *Brünnichs Teiste*, Dan.; *Lomvi*, Norweg.; *Brünnichs-Grisla*, Swed.

♂ *ad.* (Greenland). Crown, nape, and upper parts glossy black, the head and neck with a faint greenish gloss; wings and tail black, the secondaries tipped with white; chin, throat, and sides of head brownish black; under parts white; bill black, stout, the ridge of the upper mandible yellowish white; legs and feet plumbeous black, the upper parts of the toes and tarsus tinged with deep yellowish olive; iris dark brown. Gape 2·25, wing 8·5, tail 2·2, tarsus 1·5 inch. Sexes alike. In winter the upper parts are duller and the chin and throat white.

Hab. Arctic Ocean and North Atlantic, occasionally visiting the coasts of Norway, and of rare and accidental occurrence on the coasts of the British Islands, Denmark, Germany, and Holland; North Pacific as far south as Japan.

In habits and nidification this species does not differ from *U. troile*, and its eggs are similar, but as a rule somewhat blunter at the small end, and rather more brightly coloured.

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MERGULUS, Vieillot, 1816.

1191. LITTLE AUK.

MERGULUS ALLE.

Mergulus alle (Linn.), Syst. Nat. i. p. 211 (1766); (Naum.), xii. p. 552, Taf. 334; (Hewitson), ii. p. 465, pl. cxxvii. fig. 1; (Gould), B. of E. v. pl. 402; id. B. of Gt. Brit. v. pl. 50; Dresser, viii. p. 591, pl. 624; (Ogilvie Grant), Cat. B. Br. Mus. xxvi. p. 569; (Ridgway), p. 19; Saunders, p. 705; Lilford, vi. p. 94, pl. 42.

Guillemot nain, French; *Krabbentaucher*, German; *Kleine Alk*, Dutch; *Haftirdill, Halkíon*, Icel.; *Lille Krabbedykker*, Dan.; *Alkekonge*, Norweg.; *Alkekung*, Swed.; *Jääkyyhkynen*, Finn.

Ad. (Greenland). Head and neck sooty black with a brownish tinge; upper parts of body and wing-coverts black glossed with purplish blue, the scapulars margined with white; wings and tail black, the short secondaries tipped with white; under parts white, the flanks striped with black; bill plumbeous black; legs dark livid flesh-colour; iris dark brown. Gape 0·9, wing 4·8, tail 1·4, tarsus 0·82 inch. Sexes alike. In winter the entire throat and sides of the neck are white, and the nape slightly marked with white.

Hab. The Arctic Ocean north to Franz Josef's Land, east to Novaya Zemlya, west to Baffin's Bay, ranging south after the nesting season to the coasts of Great Britain, Scandinavia, the Baltic up to the Gulf of Bothnia, and the North Sea, and Atlantic south to the Canaries and Azores.

In habits it is essentially a sea-bird. It feeds, usually in large flocks, on small crustacea and probably also on small fish. At its breeding places, which are often near the top of lofty cliffs, it is said to be very noisy, continually uttering its note, *trrr, trrr, tet, tet, tet, trrr*. It breeds in rocky places, depositing a single egg between the stones, or in clefts of the rocks. The eggs are pale greenish blue, sometimes almost white, occasionally dotted and spotted, chiefly at the larger end, with pale red, and measure about 1·88 by 1·31.

URIA, Brisson, 1760.

1192. BLACK GUILLEMOT.

URIA GRYLLE.

Uria grylle, Linn. Syst. Nat. i. p. 220 (1766); (Naum.), xii. p. 461, Taf. 330; Hewitson, ii. p. 462, pl. cxxvi.; Gould, B. of E. v. pl. 399; id. B. of Gt. Brit. v. pl. 49; Dresser, viii. p. 581, pl. 623; Ogilvie Grant, Cat. B. Br. Mus. xxvi. p. 580; (Ridgway), p. 16; Saunders, p. 703; Lilford, vi. p. 91, pl. 41.

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Guillemot grylle, French: *Gryll-Teiste*, German; *Theista*, Icel.; *Almindelig Teiste*, Dan.; *Teiste, Per-drikker*, Norweg.; *Tobis-grisla*, Swed.; *Riskilä*, Finn.

♂ *ad.* (Greenland). General plumage deep black, the upper parts with a greenish gloss, the under parts tinged with brownish; central and larger wing-coverts white, but black on the concealed bases of the feathers, forming a large white alar patch; bill black; legs and feet rich vermilion or coral-red; iris dark brown. Culmen 1·4, wing 6·4, tail 2·2, tarsus 1·15 inch. Sexes alike. In winter the crown is white marked with black; back and rump black, the feathers margined with white, the latter nearly all white; wings and tail as in summer; rest of plumage white.

Hab. North Atlantic east to the White Sea; the Baltic and coasts of Scandinavia, Germany, and Northern France; breeds on the coasts of Britain; on the American coasts, from S. Greenland and Labrador, south to New Jersey in winter.

Like *A. troile* it is essentially a sea bird, usually found far out at sea, except during the breeding season, but it lives in pairs and does not breed in societies. It swims with ease, dives like a flash, and its flight is swift and direct. Its food consists of crustacea and small fish, which it obtains chiefly by diving. Unlike *A. troile* it does not deposit its eggs on the bare ledges of cliffs, but in a cleft in the rock, or under a boulder, sometimes near the water's edge, and at others at a considerable altitude, and makes no nest. Its eggs, 2 to 3 in number, are usually deposited late in May or in June, and are white or greenish white with purplish grey shell-markings, and blackish brown surface spots and blotches, some being but scantily, others very richly marked. In size they measure about 2·41 by 1·62.

1193. Mandt's Guillemot.

URIA MANDTI.

Uria mandti, Licht. in Mandt. Observ. &c. Diss. Inaug. p. 30 (1822); Dresser, viii. p. 587; (Tacz.), F. O. Sib. O. p. 1221; Ogilvie Grant, Cat. B. Br. Mus. xxvi. p. 584; (Ridgway), p. 16.

♂ *ad.* (Spitsbergen). Differs from *U. grylle* in having the bill slightly smaller, and the feathers constituting the white alar patch white to the base. Culmen 1·5, wing 6·4, tail 2·0, tarsus 1·1 inch. In winter the upper parts are whiter than in *U. grylle*.

Hab. Coasts of the circumpolar seas, to Franz Josef's Land, Spitsbergen, Novaya Zemlya, North Greenland, and Arctic America, south to Labrador and Hudson's Bay; in the North

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Pacific, Kamchatka, the Commander Islands, and Saghalien, and the northern coasts of E. Siberia.

In habits and nidification this species does not differ from *U. grylle*, and its eggs resemble those of that species.

1194. Pigeon-Guillemot.

URIA COLUMBA.

Uria columba (Pall.), Zoogr. Ross. As. ii. p. 348 (1811); (Tacz.), F. O. Sib. O. p. 1222; (Seebohm), B. Jap. Emp. p. 275 (part); Ridgway, p. 17; Ogilvie Grant, Cat. B. Br. Mus. xxvi. p. 586.

♂ *ad.* (Bering Island). Differs from *U. grylle* in having the bill stouter and more obtuse at the tip, the plumage tinged with grey, the under wing-coverts smoky brown, the white alar patch divided on the outer half by a black V-shaped bar, and the basal part of the quills greyish on the inner web, tail composed of 14, not 12 feathers. Culmen 1·2, wing 7·2, tail 2·0, tarsus 1·3 inch.

Hab. North Pacific, on the Asiatic side on the coasts of Kamchatka, the Commander Islands, the seas of Ochotsk and Japan, and the coasts of Japan and Corea; on the American side from the Aleutian Islands to Southern California.

In habits and nidification it does not differ from *U. grylle*, but its eggs are as a rule rather larger and more boldly marked.

1195. Sooty Guillemot.

URIA CARBO.

Uria carbo (Pall.), Zoogr. Ross. As. ii. p. 350, pl. lxxix. (1811); Gould. B. of As. vii. pl. 71; Schrenck, Reis. Amurl. i. p. 496, pl. xvi. fig. 1 (egg); (Seebohm), B. Jap. Emp. p. 274; (Tacz.), F. O. Sib. O. p. 1224; Ogilvie Grant, Cat. B. Br. Mus. xxvi. p. 589; (Ridgway), p. 17.

♂ *ad.* (Japan). Differs from *U. columba* in having a more robust and longer bill; general colour slaty black, paler below, tinged with brown on the shoulders, under wing-coverts, and axillaries; orbital region white, white alar patch large; feathers on the chin and throat and above the nasal opening whitish; tail composed of 14 feathers. Culmen 2·0, wing 7·7, tail 2·05, tarsus 1·5 inch.

Hab. North Pacific from the Commander Islands, the Sea of Ochotsk, Kamchatka, the Kurile Islands, and coasts of Japan and Corea.

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In habits and nidification it does not differ from *U. grylle*, but its eggs are a trifle larger and more boldly marked.

1196. Subsp. Uria snowi.

Uria snowi (Stejn.), Auk, xiv. p. 201 (1897); Ogilvie Grant, Cat. B. Br. Mus. xxvi. p. 588; (Oates), Cat. Birds' Eggs, B. Mus. i. p. 171, pl. xii. fig. 6.

♂ *ad.* (Kuriles). Differs from *U. columba* in having only two or three narrow white bars on the wing composed of white tips to the wing-coverts; soft parts as in *U. columba*. Culmen 1·6, wing 7·4, tail 1·95, tarsus 1·3 inch.

Hab. North Pacific from Southern Kamchatka to the Kurile Islands and Japan.

In habits and nidification it does not differ from *U. grylle*, and its eggs resemble those of that species.

BRACHYRHAMPHUS, Brandt, 1837.

1197. Partridge Auk.

BRACHYRHAMPHUS PERDIX.

Brachyrhamphus perdix (Pall.), Zoogr. Ross. As. ii. p. 351, pl. lxxx. (1811); Tacz. F. O. Sib. O. p. 1211; Ogilvie Grant, Cat. B. Br. Mus. xxvi. p. 592; Ridgway, p. 15; *Alca marmorata* (nec. Gmel.), Seebohm, B. Jap. Emp. p. 278.

♂ *ad.* (Kamchatka). Head, neck, and upper parts brown mottled with dull tawny buff and buffy white; wings and tail blackish, the latter slightly tipped with greyish buff; chin and upper throat white very sparingly dotted with blackish; rest of under parts white mottled with blackish brown; bill plumbeous black; legs and feet pale yellow, the webs blackish; iris dark brown. Bill from feathers on forehead to tip 0·75, wing 5·8, tail 1·5, tarsus 0·7 inch. Sexes alike.

In winter the crown, neck, and sides of lower neck are deep slate, the wings darker, the middle tail-feathers blackish, the rest white; chin, throat, a collar across the nape, and under parts white.

Hab. Asiatic coast of North Pacific from Kamchatka to the Sea of Ochotsk, Kuriles and Japan.

Occurs off the islands and coasts of the North Pacific, usually in small flocks, and is essentially a sea-bird, swimming and diving with ease like the Little Auk. In holes in the ground it lays eggs pale yellowish white, with faint slaty and reddish brown dots, chiefly collected round the larger end, and measure about 2·46 by 1·66.

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1198. Short-billed Auk.

BRACHYRHAMPHUS BREVIROSTRIS.

Brachyrhamphus brevirostris (Vigors), Zool. Jour. iv. p. 357 (1828); (Seebohm), B. Jap. Emp. p. 279; Ogilvie Grant, Cat. B. Br. Mus. xvi. p. 593; *B. kittlitzi*, Brandt, Bull. Acad. St. Petersb. ii. p. 346 (1837); Tacz. F. O. Sib. O. p. 1213; Ridgway, p. 15; Turner, Nat. Hist. Alaska, p. 120, pl. ii.

♂ *ad.* (Kuriles). Differs from *B. perdix* in being much smaller, with a much smaller bill; upper parts darker and more distinctly mottled with buff; chin and throat white closely mottled with black; rest of under parts white less closely spotted and mottled with black; bill black; legs and feet pale blue, darker posteriorly; claws and iris black. Bill from feathers to tip 0·45, wing 5·5, tail 1·1, tarsus 0·7 inch. Sexes alike.

Hab. North Pacific from Kamchatka, the Aleutian Islands, and the Sea of Ochotsk, to Japan; Unalaska, south to the coast of Mexico.

In general habits it does not differ from *B. perdix*. Its eggs do not appear to be known, but doubtless resemble those of *B. perdix* except in being smaller.

SYNTHLIBORHAMPHUS, Brandt, 1837.

1199. Ancient Auk.

SYNTHLIBORHAMPHUS ANTIQUUS.

Synthliborhamphus antiquus (Gmel.), Syst. Nat. i. p. 554 (1788); Tacz. F. O. Sib. O. p. 1215; Ridgway, p. 14; Ogilvie Grant, Cat. B. Br. Mus. xxvi. p. 596; (Seebohm), B. Jap. Emp. p. 276.

Umi-suzumi, Jap.

♂ *ad.* (Alaska). Crown, nape, hind neck, sides of head, chin, throat, sides of lower neck, and flanks black, the nape, sides of lower hind neck and fore back more or less strongly marked with white; upper parts dark slate-grey; wings and tail black washed with slate-grey; under parts, including the sides of the neck, white; bill whitish grey, brownish black along the culmen and towards the base; legs and feet bluish white, the joints brownish black; basal part of webs sooty black; iris dark brown. Culmen from base of feathers 0·55, wing 5·3, tail 1·9, tarsus 1·05. Sexes alike. In winter the fore neck and throat are white, the chin dark grey, and the stripes on the sides of the head absent.

Hab. North Pacific from Kamchatka to the Commanders, Aleutians, Kuriles, and Japan.

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In habits not differing from *Brachyrhamphus*. It breeds in holes in the ground, depositing in June 2 eggs, which are pale yellowish white faintly dotted with pale slate and reddish brown, and measure about 2·41 by 1·47.

1200. Japanese Auk.

SYNTHLIBORHAMPHUS WUMIZUSUMÈ.

Synthliborhamphus wumizusumè (Temm.), Pl. Col. v. pl. 121 (1835); (Seebohm), B. Jap. Emp. p. 277; Ogilvie Grant, Cat. B. Br. Mus. xxvi. p. 598; Ridgway, p. 14; Tacz. F. O. Sib. O. p. 1215; *B. temmincki*, G. R. Gray, Gen. of B. iii. p. 644; Elliot, B. N. Am ii. pl. lxxi.

Umi-suzumi, Jap.

♂ *ad.* (Japan). Middle of crown and nape, lower hind neck, and a large frontal tuft, wings, and tail black; chin, upper throat, and sides of head blackish slate-grey; upper parts slate-grey; sides of crown and of nape, and under parts white; bill yellowish horn, blackish along the ridge of the culmen and towards the base; legs and feet as in *S. antiquus*; iris dark brown. Gape 1·25, wing 4·75, tail 1·4, tarsus 0·9.

Hab. Coasts of Japan.

In habits this species does not differ from its allies; its eggs are as yet unknown.

SIMORHYNCHUS, Merrem, 1819.

1201. Crested Auk.

SIMORHYNCHUS CRISTATELLUS.

Simorhynchus cristatellus (Pall.), Spic. Zool. fasc. 5, p. 20, pls. 3 and 5, figs. 7-9 (1769); (Schrenck), Reis. Amur. L. i. p. 500, pl. xvi. figs. 4, 5 (1859); Ogilvie Grant, Cat. B. Br. Mus. xxvi. p. 602; (Seebohm), B. Jap. Emp. p. 285; Ridgway, p. 13; *S. tetraculus* (Pall.), op. cit. p. 23, pls. iv. v. figs. 10–12 (1769).

Eturop-umi-suzumi, Jap.

♂ *ad.* (Bering Island). Upper parts blackish tinged with slaty brown; under parts dull slate-grey; wings and tail blackish; on the forehead a large black recurved crest, and a white streak through and behind the eye where these feathers are much elongated; basal portion of both mandibles bright orange, extremity light bluish horn; inside of mouth flesh-colour; legs and feet bluish slate, the webs darker; iris nearly white. Culmen from feathers 0·5, wing 5·6, tail 1·65, tarsus 1·1 inch.

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Hab. North Pacific from Kamchatka to the Commander and Kurile Islands, and Japan; Alaska.

In habits not differing from its allies. It breeds in deep crevices in and under the rocks, depositing in June chalky white eggs, which vary in size from 2·06 by 1·50 to 2·31 by 1·61.

1202. Whiskered Auk.

SIMORHYNCHUS PYGMÆUS.

Simorhynchus pygmæus (Gmel.), Syst. Nat. i. p. 555 (1788); (Seebohm), B. Jap. Emp. p. 286; Ogilvie Grant, Cat. B. Br. Mus. xxvi. p. 603; Ridgway, p. 13; (Tacz.), F. O. Sib. O. p. 1235.

♂ *ad.* (Kuriles). Upper parts, wings, and tail black; rump and upper tail-coverts dark slate; lower abdomen white, the rest of the under parts sooty greyish black, becoming black on the upper throat and chin; a patch in front of the eye, and long stripes of elongated feathers from the base of the gape and from behind the eye white; a long recurved white crest above the eye, and a long black one on the forehead; beak vermilion, the tip bluish; legs and feet light bluish grey, the joints brownish violet; iris white. Culmen from feathers 1·4, wing 4·6, tail 1·3, tarsus 1·0 inch Sexes alike. In winter the plumage scarcely differs.

Hab. North Pacific from Kamchatka the Commander and Kurile Islands to Northern Japan; Alaska.

In general habits it does not differ from its allies, and I do not find any description of its nidification, but its egg is pure white, rather dull in grain, and measures 1·78 by 1·26.

1203. Least Auk.

SIMORHYNCHUS PUSILLUS.

Simorhynchus pusillus (Pall.), Zoogr. Ross. As. ii. p. 373, pl. xc. (1811); (Elliot), B. N. Am. ii. pl. lxviii.; (Tacz.), F. O. Sib. O. p. 1229; Ogilvie Grant, Cat. B. Br. Mus. xxvi. p. 605; Ridgway, p. 13; (Seebohm), B. Jap. Emp. p. 287; *Phaleris microceros*, Brandt, Bull. Acad. St. Petersb. ii. p. 347 (1837).

♂ *ad.* (St. Paul's, Alaska). Upper parts, wings, tail, chin, and a narrow band crossing the neck black; rest of under parts white, the flanks marked with blackish; forehead finely striped with pointed white feathers, and two or three white lines behind the eye; bill dark reddish on the terminal half, basal half and tubercle dusky; legs and feet light whitish cobalt-blue, the joints darker; webs blackish; iris white. Culmen 0·55, wing 3·9, tail 1·9, tarsus 0·8 inch. Sexes alike. In winter the tubercle at the base of the bill is absent, and the chin and upper throat are dark smoke-grey.

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Hab. North Pacific and the Arctic Ocean south to Japan; Kamchatka, the Commander and Kurile Islands; Alaska.

In habits it does not appreciably differ from its allies. It breeds in crevices of rocks or under huge boulders, in June, laying a single dull white egg, very faintly marked with pale reddish brown at the larger end, which measures 1·62 by 1·07.

1204. Parroquet Auk.

SIMORHYNCHUS PSITTACULUS.

Simorhynchus psittaculus (Pall.), Spicel. Zool. fasc. v. pls. ii. and v. figs. 4–6; (Tacz.), F. O. Sib. O. p. 1227; (Elliot), B. N. Am. ii. pl. lxx.; (Seebohm), B. Jap. Emp. p. 284; (Ogilvie Grant), Cat. B. Br. Mus. xxvi. p. 607; (Ridgway), p. 12.

♂ *ad.* (Kuriles). Head, neck to upper breast, upper parts, wings, tail, and flanks deep smoky black, rather browner on the neck; rest of under parts white; a band of narrow elongate white feathers from behind the eye across the ear-coverts; bill salmon-red; nasal shield darker, greyish brown; soft part along the base of the upper tomia fleshy white; feet bluish white tinged with yellow, on the joints a well-defined dusky spot; webs blackish, along the toes bluish white; sides of tarsus and toes black; iris white. Gape 1·0, wing 6·1, tail 1·85, tarsus 1·25 inch.

Hab. North Pacific from the Chukchi Peninsula to the Kuriles, but not on the coasts of Eastern Siberia, though it occurs on those of Kamchatka; Commander Isles and Alaska.

In habits it is said to resemble its allies. Its note is a clear whistle like that of *Uria grylle* and *U. columba*. It lays in June, in the crannies of almost inaccessible cliffs, its single egg, which is dull chalky white without any markings. A single egg in my collection measures 1·62 by 1·17.

CERORHYNCHA, Bp., 1826.

1205. Hornbilled Puffin.

CERORHYNCHA MONOCERATA.

Cerorhyncha monocerata (Pall.), Zoogr. Ross. As. ii. p. 362 (1811); (Tacz.), F. O. Sib. O. p. 1241; (Seebohm), B. Jap. Emp. p. 283; Ogilvie Grant, Cat. B. Br. Mus. xxvi. p. 609; Ridgway, p. 12.

♂ *ad.* (Japan). Upper parts generally, wings, and tail black; sides of head, chin, neck, and upper breast, flanks, and under wing-coverts brownish smoke-grey; rest of under parts white from the gape, and also from behind

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the eye a line of long narrow white feathers; bill orange-yellow, the cutting edges of the mandibles dusky; ridge of culmen and anterior and posterior edges of horn black, corner of mouth white; legs and feet whitish yellow, dusky at the joints, the back of metatarsi and soles blackish. Gape 1·76, wing 7·4, tail 2·0, tarsus 1·25 inch. Sexes alike.

Hab. North Pacific from Kamchatka to Japan; the Commander Isles, the coasts of Russian Manchuria to Sidemi; Alaska to Southern California.

In habits it is said to resemble the Puffins. I do not find any description of its nidification, but 2 eggs in my collection are dull chalky white, and measure 2·72 by 1·77 and 2·56 by 1·92 respectively.

LUNDA, Pall., 1811.

1206. Tufted Puffin.

LUNDA CIRRHATA.

Lunda cirrhata (Pall.), Spic. Zool. fasc. v. p. 7, pls. 1 and 5, figs. 1–3 (1769); id. Zoogr. Ross. As. ii. p. 363, pl. lxxxii.; Tacz. F. O. Sib. O. p. 1243; (Seebohm), B. Jap. Emp. p. 281; Ogilvie Grant, Cat. B. Br. Mus. xxvi. p. 612; Ridgway, p. 10.

Toporak, Russ.

♂ *ad.* (Bering Island). General colour deep black, the under parts below the breast duller and rather paler; base of bill and anterior half of face white; above the eye a long bunch of silky straw-coloured feathers; terminal portion of bill deep orange-red, the basal part light olive-green, almost apple-green along the ridge of the culmen; angle of mouth and a narrow strip of skin between the bill and feathering of the face, and ring round the eye vermilion; legs and feet bright red; iris white. Gape 1·85, wing 7·8, tail 2·4, tarsus 1·25 inch. Sexes alike. In winter the sides of the head are dusky, and the straw-yellow tufts above the eyes are absent.

Hab. North Pacific, from Kamchatka; the Commander and Kurile Isles; the Sea of Ochotsk to Japan; on the American side from Alaska to Southern California; of accidental occurrence in Maine, U.S., and off Greenland.

In habits it closely resembles our Puffin, and its note is an angry *crrrr*. It nests in crannies in the rocks, and its egg is dull chalky white, sometimes finely dotted with reddish brown, and measures about 2·86 by 1·92.

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FRATERCULA, Briss., 1760.

1207. Puffin.

FRATERCULA ARCTICA.

Fratercula arctica (Linn.), Syst. Nat. i. p. 211 (1766); (Naum.), xii. p. 577, Taf. 335; (Hewitson), ii. p. 466, pl. cxxvii. fig. 2; Gould, B. of Gt. Brit. v. p. 51; Dresser, viii. p. 599, pl. 625; Ogilvie Grant, Cat. B. Br. Mus. xxvi. p. 616; Saunders, p. 707; Ridgway, p. 11; Lilford, vi. p. 96, pl. 43; *Mormon fratercula*, Temm. Man. d'Orn. p. 614 (1815); Gould, B. of E. v. pl. 403; *F. glacialis*, Steph. in Shaw's Gen. Zool. xiii. part 1, p. 40, pl. iv. fig. 2 (1826).

Macareux, French; *Papagaio do mar*, Portug.; *Frailecillo*, Span.; *Polcinella di mare*, Ital.; *Arktischer Lund*, German; *Seepapagei*, Dutch; *Lundi*, Icel.; *Sö-papagöie*, Dan.; *Lundefugl*, Norweg.; *Lunnefogel*, Swed.

♂ *ad.* (Greenland). Crown brownish black; sides of head to above the eye, chin, and upper throat ashy grey; neck collar narrowing to a thin band in front, back and upper parts, wings and tail deep black, the upper parts glossed with purple; under parts white; bill in spring and summer livid blue, the upper ridge and those crossing the bill orange-red, the fleshy part round the gape orange, the ridge at the base tinged with green; legs bright orange; iris grey; a fleshy patch above and below the eye lead-blue. Gape 1·55, height of bill at base 1·5, wing 6·7, tail 2·0, tarsus 1·15 inch.

Hab. Both sides of the North Atlantic, north to Greenland, east to Novaya Zemlya, breeding as far south as the north of France; in winter ranging south to the Canaries.

Essentially an ocean bird the Puffin is only seen near the land during the breeding season. It swims well and buoyantly, and flies swiftly. It dives with ease, feeding on small fish and mollusca, which it obtains by diving. It breeds in May, depositing in holes in the ground or crevices in the rocks, a single egg, which is dull white with a rough surface, sometimes marked with pale brown, and measures about 2·50 by 1·61.

1208. Horned Puffin.

FRATERCULA CORNICULATA.

Fratercula corniculata (Naum.), Isis, 1821, p. 782, Taf. vii. figs. 3, 4; Seebohm, B. Jap. Emp. p. 280; Tacz. F. O. Sib. O. p. 1248; Ogilvie Grant, Cat. B. Br. Mus. xxvi. p. 620; Ridgway, p. 11.

Etopirika, Jap.

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♂ *ad.* (Kuriles). Differs from *F. arctica* in having the sides of the head white, a narrow grey stripe behind the eye, the forehead and crown blackish grey, the black collar on the neck extended up to the chin; a blackish elongated horn on the upper eyelid; tip of bill to between the 2nd and 3rd groove red, basal part pale chrome-yellow; swollen angle of gape and inside of mouth orange; legs orange-red; iris brownish grey; naked ring round the eye deep orange. Gape 1·5, height of bill at base 1·8, wing 7·3, tail 2·6, tarsus 1·2. Sexes alike. In winter the sides of the head are ashy grey, and the superciliary horns and basal shields on the bill fall off.

Hab. North Pacific, north to 71° in the Arctic Ocean; Kamchatka, the Commander and Kurile Islands, the Sea of Ochotsk, Alaska, and British Columbia.

In habits and nidification it does not differ from *F. arctica*, and its eggs are undistinguishable from those of that species. In both *Lunda* and *Fratercula* the young birds resemble the adult in winter dress, but have a smaller bill, and the young in down are dark sooty brown with white or whitish bellies.

COLYMBUS, Linn., 1766.

1209. Red-throated Diver.

COLYMBUS SEPTENTRIONALIS.

Colymbus septentrionalis, Linn. Syst. Nat. i. p. 220 (1766); Naum. xii. p. 434, Taf. 329; Hewitson, ii. p. 453, pl. cxxiii. fig. 1; Gould, B. of E. v. pl. 395; id. B. of Gt. Brit. v. pl. 45; Dresser, viii. p. 621, pl. 628; David and Oust. Ois. Chine, p. 512; Ogilvie Grant, Cat. B. Br. Mus. xxvi. p. 487; Saunders, p. 715; Lilford, vi. p. 105, pl. 47; *C. lumme*, Brünn. Orn. Bor. p. 39 (1764); Tacz. F. O. Sib. O. p. 1264; Ridgway, p. 8.

Plongeon cat-marin, French; *Mergulhão*, Portug.; *Cardellot* Span.; *Strolaga minore*, Ital.; *Nordsee-taucher*, German; *Roodhalzige Zeeduiker*, Dutch; *Lómr*, Icel.; *Nordisk Lom*, Dan.; *Smaalom*, Norweg.; *Smålom*, Swed.; *Gakkur*, Lapp.; *Kaakkuri*, Finn.; *Abi*, Jap.

♂ *ad.* (Greenland). Fore-crown, deep blue-grey streaked with black; hind crown, neck, and fore back black with white margins; upper parts brownish black, finely spotted with white; wings and tail blackish brown, the latter tipped with dirty white; sides of head, neck, and throat clear blue-grey; on the throat a large triangular patch of rusty red; flanks blackish brown; rest of under parts white; bill black; legs blackish

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brown, tinged with green on the outside, the middle of the webs dull fleshy yellow; iris dark brown. Culmen 2·5, wing 11·0, tail 2·1, tarsus 2·75 inch. Sexes alike. In winter the throat and sides of face are white.

Hab. Northern portions of the Old and New Worlds; in Europe north to Iceland and Greenland, south in winter to the Mediterranean, Black Sea, and to Lower Egypt; in Asia north to Kamchatka, south in winter to Japan and China; in America, in winter, nearly across the United States.

This species flies swiftly, but is less frequently seen on the wing than on the water; there its movements are graceful and easy, and it dives with ease, remaining for some time below the surface. Its note is a loud weird shriek, like that of a drowning person. It nests on the borders of fresh-water lakes, the nest being merely a small collection of rushes or grass close to the water, and its eggs, 2 in number, are usually deposited early in June, and are olivaceous brown or olivaceous, spotted and blotched with black, but sometimes plain unspotted olivaceous brown; they measure about 2·85 by 1·79.

1210. Black-throated Diver.

COLYMBUS ARCTICUS.

Colymbus arcticus, Linn. Syst. Nat. i. p. 221 (1766); (Naum.), xii. p. 418, Taf. 328; Hewitson, ii. p. 451, pl. cxxiii. fig. 2; Gould, B. of E. v. pl. 394; id. B. of Gt. Brit. v. pl. 44; Temminck and Schlegel, Faun. Jap. Aves, p. 123; Dresser, viii. p. 615, pl. 627; Ogilvie Grant, Cat. B. Br. Mus. xxvi. p. 492; Tacz. F. O. Sib. O. p. 1262; Saunders, p. 713; Ridgway, p. 7; Lilford, vi. p. 104, pl. 46.

Plongeon à gorge noire, French; *Strolaga mezzana*, Ital.; *Polartaucher*, German; *Parelduiker*, Dutch; *Polar-lom*, Danish; *Storlom*, Norweg.; *Stor-lom*, Swed.; *Kuikka*, Finn.; *Gagara polosataya*, Russ.; *O-hamu*, Jap.

♂ *ad.* (Archangel.) Crown, nape, and hind neck ashy grey, darker on the forehead and brownish on the sides of the head; upper parts glossy black marked with white cross bars; wings and tail black, the former spotted with white; chin and throat black, tinged with purple, the sides of the throat striped with white, and a patch of white stripes on the upper throat; under parts white; the flanks black; bill bluish black, paler at the base; outer tarsus, hind and outer toes, and two marks across the webs blackish brown tinged with green, the rest of the legs and the webs reddish white. Culmen 2·6, wing 11·7, tail 2·5, tarsus 2·9 inch. Sexes

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alike. In winter the upper parts are dull blackish marked with brownish white; the chin, throat, and under parts white; the sides of the lower throat and breast striped with black.

Hab. The northern portions of Europe, Asia, and America, but not in Iceland, migrating south in winter, in Europe to the Mediterranean, Black Sea, and Caspian, in Asia to Japan, and in America to the Northern United States east of the Rockies.

In habits the present species closely resembles its allies, and like those its cry is loud and weird. It nests on the margins of lakes or on small islands, its nest being a scanty collection of herbage, and in May deposits 2 eggs, which resemble those of *C. septentrionalis*, but are darker and larger, measuring 3·22 by 2·10.

1211. Great Northern Diver.

COLYMBUS GLACIALIS.

Colymbus glacialis, Linn. Syst. Nat. i. p. 221 (1766); (Naum.) xii. 397, Taf. p. 327; Hewitson, ii. p. 449, pl. cxxii.; Gould, B. of E. v. pl. 393; id. B. of Gt. Brit. v. pl. 43; Dresser, viii. p. 609, pl. 626: Ogilvie Grant, Cat. B. Br. Mus. xxvi. p. 496; Saunders, p. 711; Lilford, vi. p. 97, pl. 44; *Colymbus immer*, Linn. Syst. Nat. i. p. 222 (1766); Ridgway, p. 7; *C. torquatus*, Keyserl. and Blas. Wirbelth. p. 916 (1840).

Plongeon imbrim, French; *Mergulhão*, Portug.; *Patoula, Ahulla*, Span.; *Strolaga maggiore*, Ital.; *Eisseetaucher, Imbergans*, German; *Ijsduiker*, Dutch; *Himbrimi*, Icel.; *Islom*, Dan., Norweg., and Swed.; *Morskaya-Gagára*, Russ.

♂ *ad.* (Maine, U.S.) Differs from *C. arcticus* in being larger, in having the whole head and neck glossed with steel-blue and purple; the upper parts black, glossed with steel-blue and purple and spotted with black; on the upper and lower throat a transverse band of white stripes; under parts white; the sides of the lower throat and upper breast striped with purplish black; flanks purplish black spotted with white, and a dark band across the crissum; bill blackish horn, the tip and edge of mandibles plumbeous; legs blackish, lighter on the inner side; iris rich reddish. Culmen 4·4, wing 15·8, tail 3·2, tarsus 3·6 inch. Sexes alike. In winter the upper parts are dark brown, the feathers margined with ashy grey, and the chin, throat, and under parts white, the longer under tail-coverts and a band across the vent brown.

Hab. Northern North America, Greenland, Iceland, and the Færoes, east to Novaya Zemlya; in winter ranging south to the Mediterranean, the Gulf of Mexico, and California; of regular occurrence in Scandinavia and Britain.

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In habits it does not differ from its allies, but is as a rule rather more shy and wary. Its cry is very loud, wild, and weird, resembling that of a child being tortured. Its food consists chiefly of fish, which it captures by diving, and it is also said to devour small crabs. Its nest is a mass of herbage close to the water, usually on an island or the borders of an inland lake, and its eggs are dull brownish olivaceous, spotted and blotched with blackish brown, and measure about 2·49 by 2·26.

1212. White-billed Diver.

COLYMBUS ADAMSI.

Colymbus adamsi, G. R. Gray, P.Z.S. 1859, p. 167 ; Collett, Ibis, 1894, p. 269, pl. viii. ; Seebohm, B. Jap. Emp. p. 362 ; Tacz. F. O. Sib. O. p. 1259 ; Dresser, ix. p. 413, pl. 722 ; Ogilvie Grant, Cat. B. Br. Mus. xxvi. p. 500 ; Saunders, p. 711 ; Ridgway, p. 7 ; Lilford, vi. p. 102, pl. 45.

Bolchoi-Gagára, Russ. ; *Ovankets jouku*, Chukch.

♂ *ad.* (Russian America.) Differs from *C. glacialis* in having the white spots on the back and wings larger, the upper throat collar with fewer and larger stripes, and the bill long, straight, and whitish yellow. Culmen 4·3, gape 4·7, wing 15·25, tail 2·6, tarsus 3·5 inch.

Hab. North-western North America and Northern Asia, ranging west to Norway ; in winter occurring south to Japan and as a rare straggler in Britain.

In general habits this species does not differ from *C. glacialis*, and its eggs resemble those of that species.

PODICIPES, Lath., 1787.

1213. Great Crested Grebe.

PODICIPES CRISTATUS.

Podicipes cristatus (Linn.), Syst. Nat. i. p. 222 (1766) ; (Naum.), ix. p. 686, Taf. 242 ; Hewitson, ii. p. 441, pl. cxx. fig. 2 ; Gould, B. of E. v. pl. 388 ; id. B. of Gt. Brit. v. pl. 38 ; Dresser, viii. p. 629, pl. 629 ; David and Oust. Ois. Chine, p. 514 ; Ogilvie Grant, Cat. B. Br. Mus. xxvi. p. 544 ; Tacz. F. O. Sib. O. p. 1251 ; Blanf. F. Brit. Ind. Birds, iv. p. 473 ; Saunders, p. 717 ; Ridgway, p. 5 ; Lilford, vi. p. 109, pl. 48 ; *P. australis*, Gould, P.Z.S. 1844, p. 135 ; id. B. of Austral. vii. pl. 80.

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Grèbe huppé, French; *Mergulhão de crista*, Portug.; *Somormujo*, Span.; *Svasso maggiore*, Ital.; *Gehaubter-Steissfuss*, German; *Fuut*, Dutch; *Toppet-Lappedykker*, Dan.; *Toplom*, Norweg.; *Skägg-Dopping*, Swed.; *Silkkikuikka*, Finn.; *Gagara-khokhlataïa*, Russ.

♂ *ad.* (Volga). Crown and occipital tufts greyish-greenish black; from the base of the upper mandible a reddish line passes over the eye to the white on the cheeks; chin and fore part of the face white; ruff light brownish red anteriorly; greyish black posteriorly; hind neck greyish black, the fore part white on the sides, tinged with buffy brown; upper parts greyish black with some brownish grey margins; anterior edge of wing, the short secondaries, and a few scapulars white; under parts silvery white, the flanks buffy brown; bill blackish brown, yellowish at the base and along the lower mandible; a bare space from the eye to the mouth dusky green; legs dusky green externally, greenish yellow internally; iris carmine-red. Culmen 2·1, wing 7·4, tarsus 2·5 inch. Female smaller and with the ruff and occipital tufts less developed.

Hab. Central and Southern Europe, north to Britain and Scandinavia; Africa, south to the Cape of Good Hope; Asia, north to Mongolia, east to Japan, and south to India; Australia, Tasmania, and New Zealand.

Essentially a water bird this Grebe is an expert swimmer and diver, but clumsy on land. When alarmed it seeks safety by diving, but on the wing it is tolerably swift. Its food consists of small fish, frogs, insects, and larvæ, which it captures chiefly under water. Its note is a loud, deep *keck*, *keck*, *keck*, and its pairing cry a loud *kreworr*, *kreworr*. Its nest is a heap of floating aquatic herbage, and its 3 or 4 eggs, which are usually deposited in May, are dull chalky white with a yellowish green tinge, and measure about 2·20 by 1·44.

1214. Red-necked Grebe.

PODICIPES GRISEIGENA.

Podicipes griseigena (Bodd.), Tabl. Pl. Enl. p. 55 (1783); Dresser, viii. p. 639, pl. 630; Ogilvie Grant, Cat. B. Br. Mus. xxvi. p. 539; Saunders, p. 719; Ridgway, p. 5; Lilford, vi. p. 114, pl. 49; *P. rubricollis*, Gmel. Syst. Nat. i. p. 592 (1788); Gould, B. of E. v. pl. 389; id. B. of Gt. Brit. v. pl. 39; Naum. ix. p. 720, Taf. 243; Hewitson, ii. p. 443, pl. cxx. fig. 1; Seebohm, B. Jap. Emp. p. 364; *P. holbœlli*, Reinhardt, Vidensk. Meddel. 1853, p. 76; Ogilvie Grant, Cat. B. Br. Mus. xxvi. p. 542; Tacz. F. O. Sib. O. p. 1253; Ridgway, p. 5.

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Grèbe jou-gris, French; *Zambullidor*, Span.; *Svasso collorosso*, Ital.; *Rothhalsiger-Lappentaucher*, German; *Roodhalsfuut*, Dutch; *Rödhalset-Lappedykker*, Dan.; *Graastrubet-Lappedykker*, Norweg.; *Grådstrupig-Dopping*, Swed.; *Harmaakulkku-uiku*, Finn.; *Pogannka-krasnocheïa*, Russ.

♂ *ad.* (N. Russia). Crown, nape, and hind neck black; chin, upper throat, and cheeks ashy grey, slightly bordered with white; ruff but slightly developed; fore part and sides of neck rich brownish red; upper parts and wings blackish, the former with paler margins; outer secondaries white; under parts silvery white, the flanks streaked with greyish; bill black, the base of the gape yellow; legs externally greyish black, internally yellow; iris carmine-red. Culmen 1·9, wing 7·2, tarsus 2·2 inch. Female similar but a trifle smaller. In winter the crown, nape, and upper parts are greyer, the upper throat white and the neck brownish grey.

Hab. Europe, north to Greenland, south in winter to North Africa; Asia, north to Kamchatka and the Commander Islands, south to Japan; America from the fur countries south in winter to Pennsylvania; a winter visitant to the British Islands.

In general habits it resembles *P. cristatus*, and like that species frequents inland lakes in summer, and rivers and the sea coast on passage and in winter, but it is a lighter and quicker bird, and takes wing more readily. Its nest and eggs also resemble those of *P. cristatus*, but the eggs, 3 to 4 in number, and laid in May, are smaller, measuring about 2·0 by 1·35.

Examples from North America and Eastern Asia are, as a rule, larger, and have a longer bill, and have therefore by several authors been separated under the name of *P. holbœlli* (first described from Greenland), but I do not see any valid reason for separating them even subspecifically.

1215. Sclavonian Grebe.

PODICIPES AURITUS.

Podicipes auritus (Linn.), Syst. Nat. p. 222 (1766); Gould, B. of Gt. Brit. v. pl. 40; Dresser, viii. p. 645, pl. 631; Tacz. F. O. Sib. O. p. 1256; Ogilvie Grant, Cat. B. Br. Mus. p. 527; Ridgway, p. 5; Saunders, p. 721; Lilford, vi. p. 115, pl. 50; *P. cornutus*, Gmel. Syst. Nat. i. p. 591 (1788); Naum. ix. p. 739, pl. 244; Hewitson, ii. p. 444, pl. cxxi. fig. 3; Gould, B. of E. v. pl. 390; David and Oust. Ois. Chine, p. 513; Seebohm, B. Jap. Emp. p. 367.

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Grèbe cornu, French; *Somorerujo*, Span.; *Svasso forestiero*, Ital.; *Gehörnter Lappentaucher*, German; *Kuifduiker*, Dutch; *Sefönd*, *Flor-godi*, Icel.; *Hornet-Lappedykker*, Dan.; *Sortkravet-Toplom*, Norweg.; *Svarthake-Dopping*, Swed.; *Mustakulkku-uikku*, Finn.

♂ *ad.* (Greenland). Crown and forehead black; lores and a broad band of feathers passing through the eye, forming an elongated tuft on each side of the head ochreous chestnut; chin and ruff brownish black; upper parts brownish black tinged with grey; short secondaries chiefly white; neck in front rich chestnut-red; flanks dull chestnut; rest of under parts silvery white; bill dark horn; the base and tip pink; legs dull greyish black; a narrow ring encircling the pupil of the eye white, the outer ring crimson. Culmen 1·1, wing 5·7, tarsus 1·8 inch. Female similar but duller, with the ruff less developed. In winter the crown, hind neck, and upper parts are deep sooty brown, some of the dorsal feathers edged with slaty-grey; chin, sides of head, throat, and under parts silvery grey, the flanks tinged with brownish grey.

Hab. Europe, north to Southern Greenland and Iceland, south in winter to the Mediterranean and Caspian; in Asia, north to Dauria and the Commander Islands, south and east to Japan and China (rarely); North America from the fur countries to the United States.

In habits it resembles its larger allies, but is more active, and not so clumsy on land, as it can walk, and even run, with tolerable ease. Its nest is a mere collection of herbage, usually floating on the water, and its 2 to 4 eggs, which are usually deposited in May, are yellowish white with a faint bluish tinge, dull and chalky in texture of shell, and measure about 1·75 by 1·23.

1216. Eared Grebe.

PODICIPES NIGRICOLLIS.

Podicipes nigricollis, E. L. Brehm, Vög. Deutschl. p. 963 (1831); Gould, B. of Gt. Brit. v. pl. 41; Dresser, viii. p. 651, pl. 632; David and Oust. Ois. Chine, p. 513; Seebohm, B. Jap. Emp. p. 366; Blanf. F. Brit. Ind. Birds, p. 474; Ogilvie Grant, Cat. B. Br. Mus. xxvi. p. 532; Tacz. F. O. Sib. O. p. 1258; Saunders, p. 723; Lilford, vi. p. 117, pl. 51; *P. auritus*, Lath. (nec. Linn.), Ind. Orn. ii. p. 781 (1790); ii. (Naum.), ix. p. 768, Taf. 246; Hewitson, ii. p. 445, pl. cxxi. fig. 2; Gould, B. of E. v. pl. 391.

Grèbe oreillard, French; *Mergulhão*, Portug.; *Svasso piccolo*, Ital.; *Geöhrter Steissfuss*, German; *Geoorde-Fuut*, Dutch; *Öret-Lappedykker*, Dan.; *Sorthalset-Toplom*, Norweg.; *Svarthalsad-Dopping*, Swed.; *Ouchastaya-Gagara*, Russ.

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♂ *ad.* (Sarepta). Differs from *P. auritus* in having the head, neck, and upper parts black; a broad stripe from the eye covering the auriculars warm golden yellow, the flanks fox-red, and the lower abdomen greyish black; bill upcurved, black, reddish at the base; legs dull greenish black; iris bright red. Culmen 0·92, wing 4·9, tarsus 1·6 inch. Sexes alike. In winter the golden stripe is absent, and the chin and throat are white.

Hab. Central and Southern Europe, rare in Sweden, Finland, and Britain, but has bred in Denmark; Africa in winter; Asia north to Dauria, east to Japan, south to China and India.

In habits and nidification this Grebe resembles *P. auritus*. Its call-note is a soft, clear *bib, bib*, and its pairing cry a clear *bide wide wide wide wide*. Its 4 to 5 eggs, which are laid in May, resemble those of *P. auritus*, and measure about 1·66 by 1·17.

1217. Little Grebe.

PODICIPES FLUVIATILIS.

Podicipes fluviatilis (Tunstall), Orn. Brit. p. 3 (1771); Dresser, viii. p. 659, pl. 633; Ogilvie Grant, Cat. B. Br. Mus. xxvi. p. 507; Saunders, p. 725; *P. minor* (Gmel.), Syst. Nat. i. p. 591 1788; (Naum.), ix. p. 785, Taf. 247; Hewitson, ii. p. 446, pl. cxxi. fig. 1; Gould, B. of E. v. pl. 392; id. B. of Gt. Brit. v. pl. 42; Seebohm, B. Jap. Emp. p. 367; Lilford, vi. 119, pl. 52.

Le Castagneux, French; *Mergulhão alça-cu*, Portug.; *Zambullidor*, Span.; *Tuffetto*, Ital.; *Kleiner-Steissfuss*, German; *Dodaers*, Dutch; *Lille-Lappedykker*, Dan.; *Liden-Toplom*, Norweg.; *Små-Dopping*, Swed.; *Pikku-uikku*, Finn.; *El-ghotis*, Moor.; *Kaitsumuri*, Jap.

♂ *ad.* (Alexandria). Crown, nape, hind neck, chin, and lores blackish brown; sides of head, neck, and entire throat rich chestnut-red; upper parts blackish tinged with grey; short secondaries white, externally margined with dark grey; breast and flanks blackish grey; rest of under parts dark silvery grey; bill blackish, the base of the gape lemon-yellow; legs and feet dull horny greenish; iris bright brown. Culmen 0·97, wing 3·9, tarsus 1·4 inch. Sexes alike. In winter the rufous is lacking, the chin and upper throat being white, the sides of head and lower throat rufous buff.

Hab. Europe generally, from Scandinavia and Britain to North Africa; Asia Minor, and Central Asia east to Japan, but not ranging north to Siberia. In India and S. Africa it is replaced by a nearly allied subspecies, *P. capensis*, Lichtenstein, (*P. albipennis*, Sharpe).

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In general habits the Little Grebe does not differ from its allies, but does not take wing so readily as the two preceding species, preferring to seek safety by diving. It frequents inland lakes and ponds, especially where there is abundant cover, and is shy and wary. It feeds on insects, larvæ, small fish, and frogs, and occasionally on vegetable matter. Its call-note is a soft and not unpleasant *bib-bibib*, uttered several times in succession. Its nest is a large mass of aquatic herbage placed either near, or floating on, the water; its eggs, 3 to 6 in number, which are usually laid late in April or early in May, resemble those of *P. nigricollis*, but are much smaller, measuring about 1·55 by 1·04. After a very short period of incubation the eggs of all the Grebes become very discoloured, and are sometimes dark brown. The young of all our Grebes resemble the adult in winter dress but are duller, and the young in down are blackish or brownish above, striped with rufous or whitish brown, the under parts white.

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APPENDIX

Since this work was commenced many sub-species have been described, only some of which have been included or referred to, and it appears that two species have been inadvertently omitted. These two are the following, viz. :

MYIOPHONEUS, Temminck, 1823.

1218. HIMALAYAN WHISTLING THRUSH.

MYIOPHONEUS TEMMINCKI.

Myiophoneus temminckii, Vigors, P.Z.S. 1831, p. 171; Gould. Cent. Himal. B. pl. 21; Severtz. Turk. Jevot. p. 65; Sharpe, Cat. B. Br. Mus. vii. p. 8; Oates, F. Brit. Ind. Birds, i. p. 178; *M. cæruleus*, Horsf. and Moore, Cat. i. p. 199 (nec. Scop.).

Kastura, in the N.W. Himalayas.

♂ *ad.* (Himalayas). Plumage generally blackish blue, the feathers tipped with silvery blue; lores and base of forehead black, the forehead above cobalt-blue; wings and tail cobalt-blue on the outer webs; lesser wing-coverts broadly margined with cobalt-blue; median wing-coverts with whitish tips; bill yellow, the culmen and base of upper mandible blackish; legs black; iris brown. Culmen 1·45, wing 7·0, tail 5·7, tarsus 2·0 inch. Sexes alike. The young bird lacks the silvery blue tips to the feathers, and has the underparts dull black.

Hab. The Himalayas from the Hazara country and Gilgit to Assam; Arrakan and probably the whole country west of the Irrawady river; Karennee and the Karen hills; Turkestan and Afghanistan.

Frequents hill-streams and torrents, in summer up to 11,000 feet, and perches on rocks and crags; its food consists largely of snails, and its note is a loud and pleasing whistle. It breeds from April to June, and places its massive cup-shaped

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nest, which is constructed of roots and moss, in a crevice of a rock, or in the root of some upturned tree in the river-bed near or under a waterfall, and lays 3 to 5 eggs, which are pale greenish grey or greyish white minutely speckled with pink, pale purplish-pink, or pinkish-brown dots. Examples in my collection are almost uniform greyish white, the dots being scarcely visible, and in size vary from 1·57 to 1·87 in length and from 0·95 to 1·0 in breadth.

1219. Japanese Wren.

TROGLODYTES FUMIGATUS.

Troglodytes fumigatus, Temm. Man. d'Orn. iii. p. 161 (1835) ; David and Oust. Ois. Chine, p. 225 ; (Sharpe), Cat. B. Br. Mus. vi. p. 276, pl. xvi. fig. 2 ; Seebohm, B. Jap. Emp. p. 89 ; Tacz. F. O. Sib. O. p. 206 ; *T. dauricus*, Dyb. and Tacz. Bull. Soc. Zool. Fr. 1884, p. 155.

Misosazai, Jap.

♂ *ad.* (Japan). Differs from *T. parvulus* in being more rufous and much darker and, as a rule more distinctly barred both on the upper and under parts ; bill brown, the lower mandible yellowish ; feet rufous, the claws yellowish ; iris brown. Culmen 0·5, wing 2·1, tail 1·2, tarsus 0·7 inch. Examples, even from the same locality, vary considerably in colour some being paler than others.

Hab. Eastern Siberia, Northern China, Corea, and Japan.

In its general habits this species is said to resemble *T. parvulus*, but is wilder ; it is found high up in the mountains of Japan in the summer, and in winter frequents bushes near streams in the lowlands. Its song is described by Mr. Jouy as low, delicious, and warbling, similar to that of the American Winter Wren.

Taczanowski separates the form from Dauria, the Ussuri country, and Corea, subspecifically under the name *T. dauricus*, but I doubt if the slight differences in colour justify this. Dr. Stejneger also considers the form from Bering Island as separable, and described it (Zeit. Gesammt. Orn. 1884, p. 11) under the name *T. pallescens*, and he likewise separates under the name *T. fumigatus kurilensis* (Proc. U.S. Nat. Mus. 1888, p. 548) the Wren from the Kurile Islands.

The nest of this Wren resembles that of *T. parvulus* and its eggs 6 to 7 in number, are laid late in April or in May, and also resemble those of that species, being white faintly dotted with red, and average 0·7 by 0·52.

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Of the sub-species not included I may name the following, viz.:

Turdus coburni, Sharpe, Bull. B.O.C. xii. p. 28 (1901), of which I have examined the type, appears to me to be merely a pale variety of *T. iliacus*. *Cinclus olympicus*, von Madarasz, Orn. Monatsb. xi. p. 6 (1903), from Cyprus, appears to be an insular form of *C. cashmiriensis*, and *Cinclus bilkevitchi*, Zarudny, Orn. Jahrb. viii. p. p. 57 (1902), seems also to be very close to that sub-species.

Saxicola albicollis has been separated into two forms, the eastern and western. Of these the eastern form *Saxicola amphileuca*, Ehr. (Symb. Phys. fol. *b. b.* (1829)), inhabits Asia Minor, Transcaspia, Palestine, Syria, Arabia, Egypt, ranging as far west as Albania, Dalmatia, and Greece, and as far east probably as Persia, whereas the western form *Saxicola albicollis* (Vieill.), Nouv. Dict. xxi. p. 424 (1818), is found west of Greece to Spain, Morocco, and Algeria. The difference between these two consists in the eastern form having a black line across the forehead, in being as a rule rather smaller in size, and in having generally the white in the plumage less tinged with pale rufous, whereas the western form has the forehead white without any black line, and the white portions of the plumage are more tinged with rufous. It has also the under-surface of the quills as a rule paler, but this character I find on examining a series so variable that it can scarcely be taken into consideration.

Of *Saxicola lugens* also an eastern and western form have been recognised, the former as *S. lugens*, and the latter as *S. halophila*, Tristram, but I have not yet been able to examine a sufficiently large series to be quite sure if this view is correct.

Saxicola semenovi, Bianchi and Zarudny, Ann. Mus. Zool. Acad. Imp. St. Petersburg, v. No. 1, pp. 187, 189 (1900), from Eastern Persia, appears to be very close to, if not identical with *S. chrysopygia*. *Cyanecula discessa*, von Madarasz, Term. Füzetek, xxv. p. 489 (1902), and *Sylvia clara*, Kleinsch. Orn. Monatsb. ix. p. 167 (1901), I have not seen, but the latter appears to be very close to *Sylvia hortensis*. *Parus corsus*, Kleinsch., from Corsica, seems to be scarcely separable from *Parus major*. *Parus atlas*, Meade Waldo, Bull. Brit. Orn. Club. xii. p. 27 (1901), from the Atlas Mountains, and *Parus moltchanovi*, Menzbier, Bull. B.O.C. xiii. p. 49 (1903), from the Crimea, are both local forms of *Parus phœnotus*. *Motacilla subpersonata*, Meade Waldo, Bull. B.O.C. xii. p. 27 (1901), is a form of *M. personata* from Morocco. *Cotile mauritanica*, Meade Waldo, Bull. B.O.C. xii. p. 27 (1901), from Morocco, is described as

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being nearest to *C. minor*, but much paler. *Loxia guillemardi*, von Madarasz, Orn. Monatsb. xi. p. 5 (1903), is a form or race of *Loxia curvirostra* from Cyprus. *Garrulus glaszneri*, von Madarasz, Orn. Monatsb. x. p. 163 (1902), from Cyprus, of which I have examined a skin in the Tring Museum, differs slightly from *G. glandarius* in being darker, with no white on the forehead, the chin and extreme upper throat white, but the rest of the under parts uniform dark to the vent. Culmen 0·94, wing 5·8, tail 5·2, tarsus 1·22 inch. *Asio canariensis*, von Madarasz, Orn. Monatsb. ix. p. 54 (1901), is the short-eared owl from the Canaries which I do not consider as separable from *A. accipitrinus*. *Scops semenovi*, Zarudny and Härms, Orn. Monatsb. x. p. 49 (1902), from Baluchistan, is described as being closely allied to *Scops brucii*. *Strix ernesti*, Kleinschm. Orn. Monatsb. ix. p. 168 (1901), is the dark race of *Aluco flammeus* from Sardinia, and *Accipiter wolterstorffi*, Kleinschm. Orn. Monatsb. ix. p. 168 (1901), is described as being a small dark form of *Accipiter nisus* from Sardinia.

Sub-species described under trinomial titles I have not considered it necessary to include.

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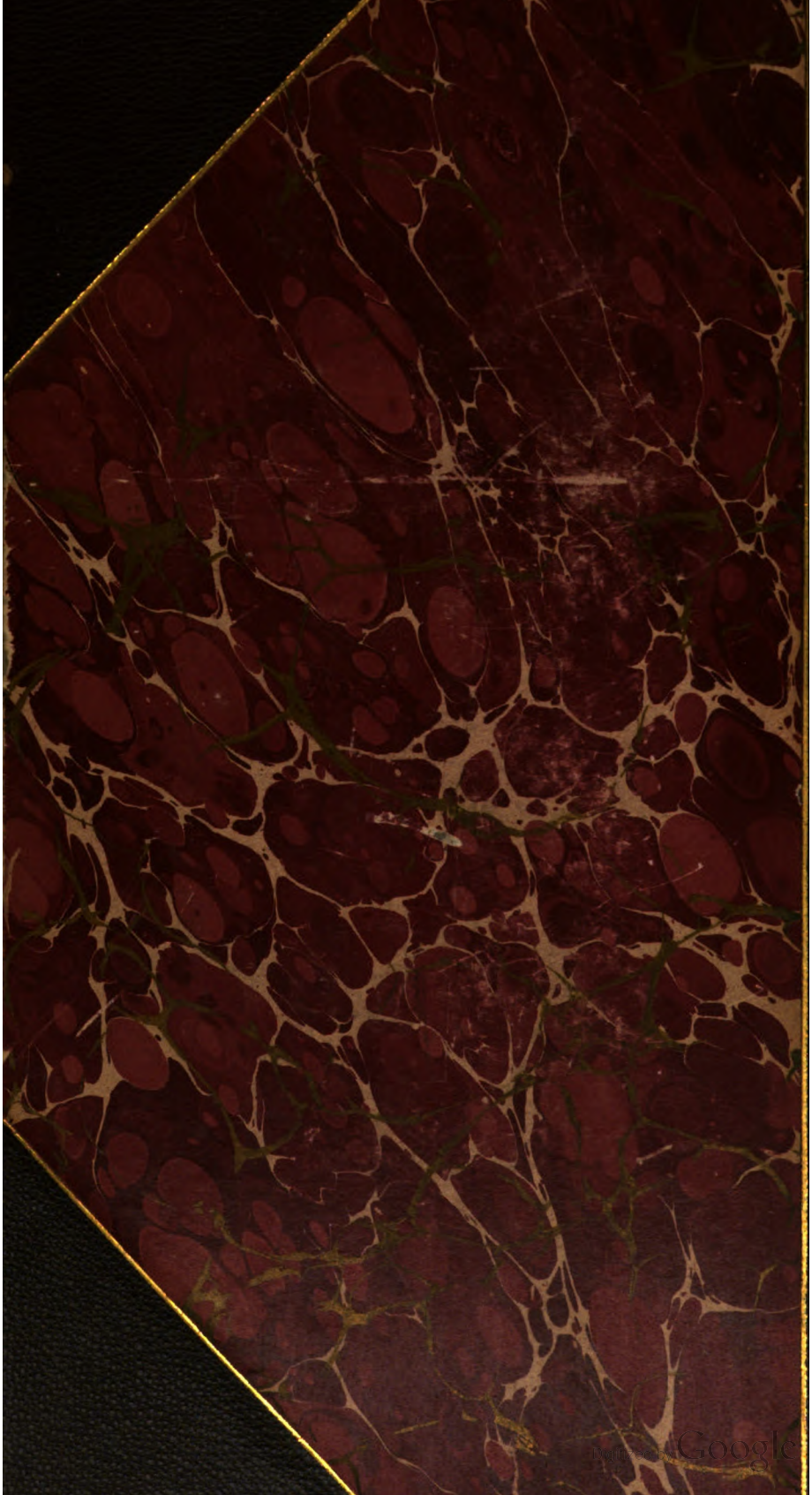
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